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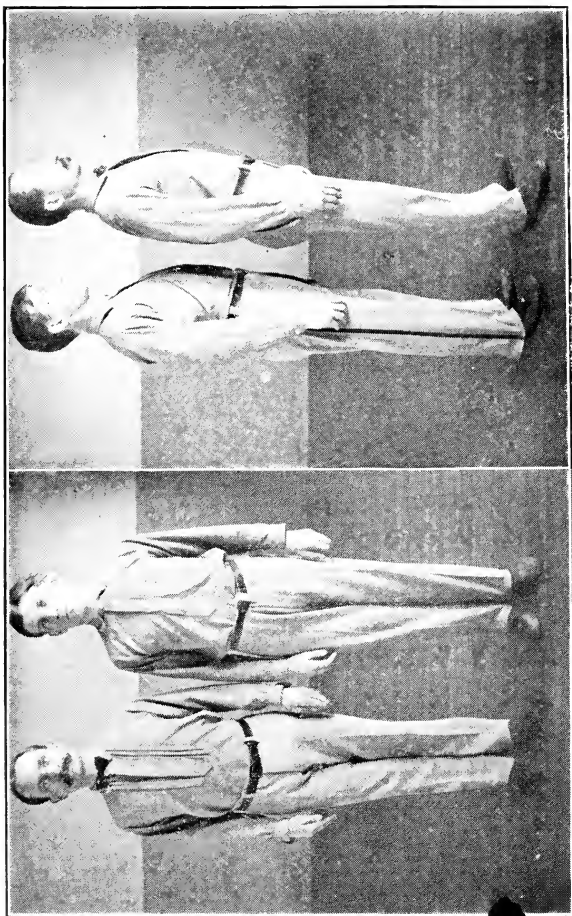


FIG. A. IN LINE.
FIG. B. IN COLUMN.
FORMATIONS UPON CALLING CLASS TO ORDER.

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GRADED CALISTHENICS AND DUMB BELL DRILLS

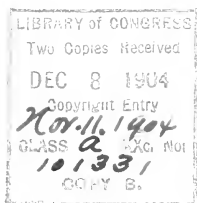
BY

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Foreword

Ever since graded apparatus work has been used in gymnastics, the necessity of having a mass drill that would harmonize with it has been felt.

For years it has been the established custom in most gymnasiums of memorizing a set drill, never varied from one year's end to another. Consequently the beginner was given the same kind and amount of work as the older member.

Most systems and instructors have recognized the need of, and some have taught, exercises of a progressive nature. The most systematic of these, however, have not been adapted to the needs of our modern gymnastic class work movement, nor have they been largely adopted. With a view to giving uniformity the present treatise is attempted. There is no desire to accept credit for creating anything new, recognizing that in all advance there is an evolutionary process with stages of growth so minute as to preclude any credit of originality. The only credit desired is for the work of collecting and giving to the public the results of this process.

It must not be forgotten, however, to give credit to those who give directions and stimulus to our efforts. In the present case the writer wishes to give credit to Mr. George W. Ehler, with whom he was associated for many years, who made a careful study of the Swedish system and used an excellent calisthenic modification adapted to the needs of the largest gymnasium membership in the country. He was often urged to perfect and publish this, but his many duties prevented his doing so. Feeling the value of the work, permission was obtained to put it into print that others might receive the benefit.

The following is a still further modification and amplification of his work. Perfection is not claimed for it. This is left for future workers; the present production is merely an attempt

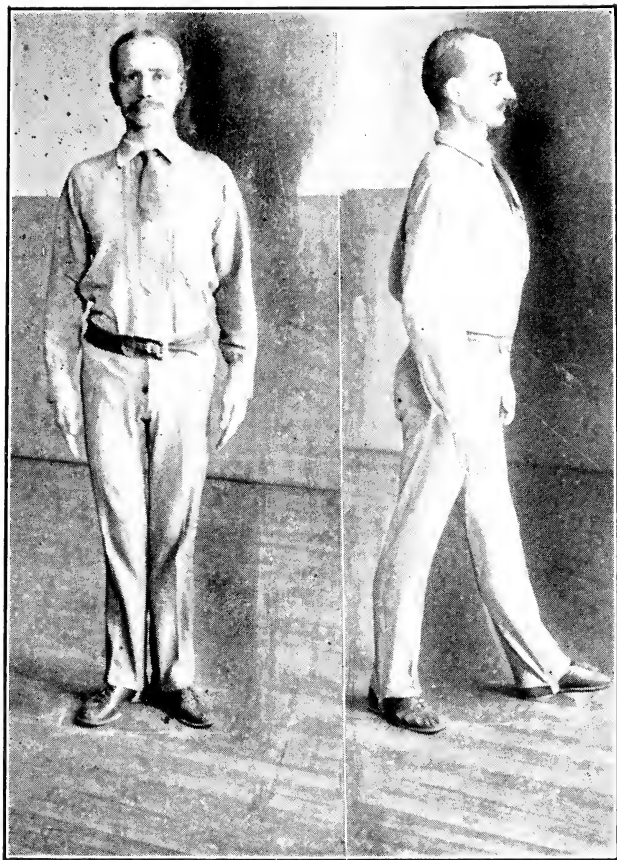


FIG. 1. ATTENTION.

FIG. 2. WALK-STAND.

to give a rational, practical, systematic, suggestive scheme of exercises, graded in character, that may be used with profit in individual as well as mass class work. It is not exhaustive. There is a book in French whose evident purpose is to give all possible movements of the body. This is valueless for our present purpose. Again, the Germans, famous for system and headwork, spare no pains in making drill after drill whose primary object seems to be to make something pretty and intricate, while the work of the Swedes smacks too much of the clinic to be used as it is.

There is no desire to discount or speak ill of any of these so-called systems. They all have great value, but there is as yet nothing that contains their excellent features and at the same time meets the needs of that distinctly peculiar type of man, the American.

The enthusiasm and vigor of the Roberts drill has been duly recognized by its widespread use, yet it does not contain the further necessary element of progression. The present work seeks to combine the physiological principles of the Swedes, the variety of the Germans, and the enthusiasm of the Americans. Necessarily, it is not a complete system of physical education, but only a factor.

The great value of the much-used "resistance exercises" are duly appreciated, but these find little or no place in mass class drill.

The following drill is not only progressive but elastic; it tells the whole story at a glance and yet is resourceful. If a set drill is desired, accompanied by music or for exhibition purposes, it is there, and requires but a few moments of the director's time to collect. But it is now conceded that the best plan for everyday use is movement by command.

There is an important feature that finds no type in this drill, but which no director can afford to miss, namely, breathing exercises. Yet this is left to the common sense of the director. To tell a man when and how to breathe is much like telling him when and how to let his heart beat. This one advice: Let the class perform breathing exercises often, with or without arm

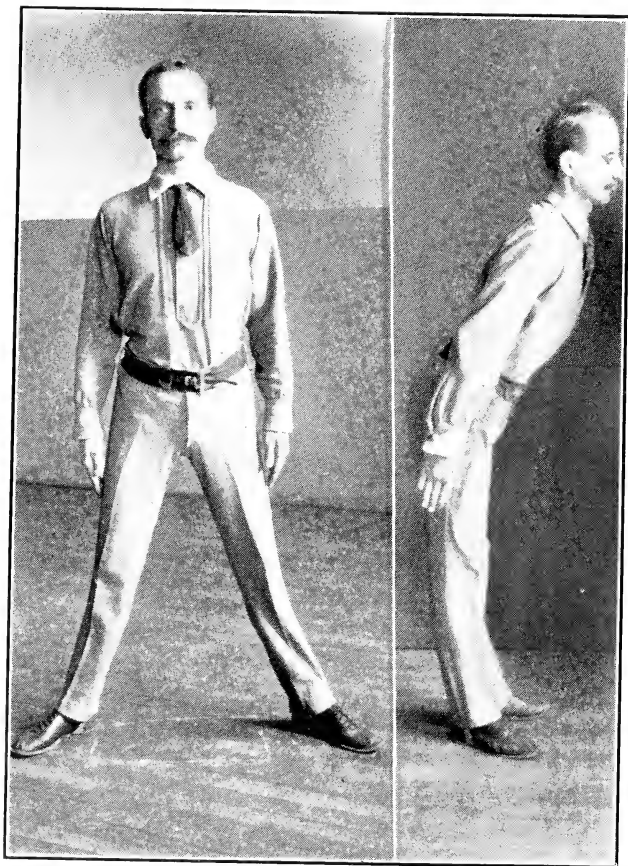


FIG. 3. STRIDE-STAND.

FIG. 4. STOOP-STAND.

movements or percussion of chest or muscles previously exercised. Experience has proved the value of this.

This is not a complete system for all muscles of the body. For example, there are no special movements for the muscles of the forearm, such as finger grip and extension, wrist shake, etc. If it is desired these may be introduced in connection with thrusts or any combination which includes arm movements.

The same may be said of forearm flexion. If one uses this drill alone and wishes work for all muscles, he may include them, but since the primary purpose of this drill is to use it in connection with other gymnastic apparatus, it will be readily seen that these muscles are largely used in such apparatus work and receive their best development in that connection.

CONCERNING THE ORDER OF GIVING THE MOVEMENTS IN CLASS.

This is a subject well worth careful consideration. The Swedes have developed a scheme called "day's order," which refers to the order of giving various exercises. They claim that experience has shown them that the order they use produces the best results.

Without wishing to reflect discredit upon their experience it is only necessary to say that other workers have had experience with just as good results without following their "day's order." It is left to the discretion of the director to select the order, in view of his experience and physiological knowledge.

Some give exercises of the same type in succession, interspersed with plenty of breathing exercises and percussion, while others give a light, easy exercise alternately with a vigorous, difficult one. Either of these methods result in good.

COMMAND AND COUNT.

The command should be short and distinct. Much depends upon the tone as to how the exercise is executed. A sharp, quick, forceful command is usually followed by the same kind of exercise.

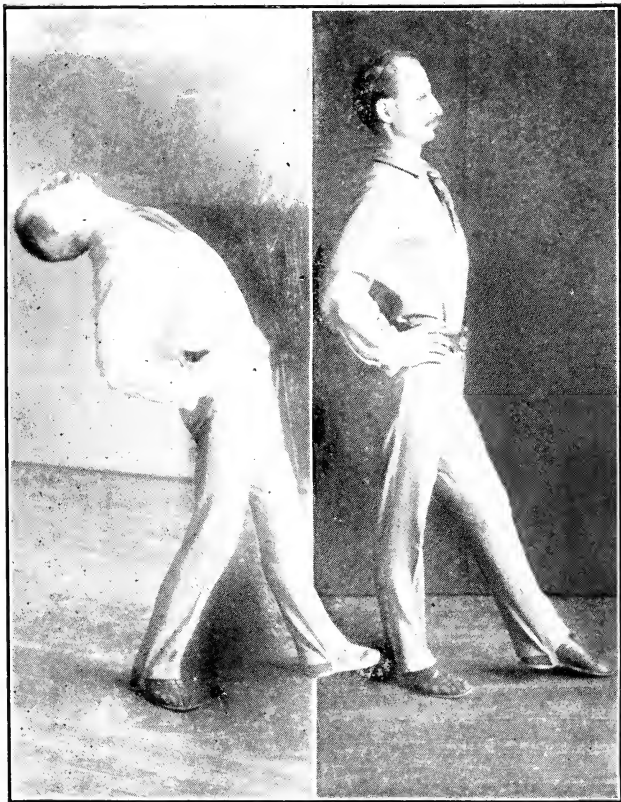


FIG. 5.
ARCH WALK STAND.

FIG. 6.
FORWARD TOE TOUCH.

There is no need of giving to all movements the same number of count. Easy exercises naturally require more and difficult ones less counts, except in case a set drill to music or for exhibition is desired. It has been found valuable to count to a certain number and then back to one, e. g., one, two, three, four; four, three, two, one. By means of this method the class will be less likely to forget the count and continue the exercise. Often it is desirable to have the class itself count loudly for the sake of enthusiasm.

HOW TO GET THE CLASS ON AND OFF THE FLOOR.

There are many ways now used for getting the class in position for the mass drill. To facilitate matters, the floor is often marked with spots. The method of laying out these spots depends upon the space and the number in classes. If the classes are crowded the spots may be marked out in the diamond shape, six feet between spots, but if there is plenty of space a diamond of seven or eight feet may be used. These spots are sometimes painted on the floor about the size of a silver dollar, or small metal discs may be inlaid and screwed to the floor.

If the spots are used the following methods may be used to get the class on the floor.

1. **THE SCRAMBLE.**—When the bell rings for class formation, each gymnast hastily seizes his bell and takes his place on any of the unoccupied spots. This is a good method where time is an important factor. The dismissal to replace bells or other light apparatus may also be made in this manner.

2. **THE LINE UP.**—There are several good methods of a more orderly character than the scramble, if time permits.

In one method one of the leaders takes his place at one corner of the gymnasium "facing in." Each of the class in turn falls in line in same attitude. (See frontispiece, Fig. A.)

Another method is to "fall in" in column of file with or without extended arms on the shoulders of the one in front. Then at command "Front" the class face the director. (See frontispiece, Fig. B.)

In either of these two methods, if the class extends only

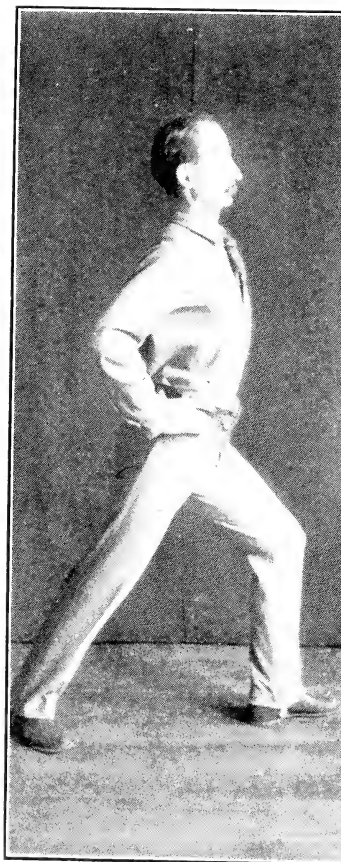


FIG. 7. FORWARD CHARGE.



FIG. 8. CROSS CHARGE.

across one side of the gymnasium, the command may be given to count off by fours, fives, sixes, etc., depending upon the width of the gymnasium, and then "open order" by causing "ones" to march a certain number of paces, "twos" two paces less, "threes" two paces behind "twos," etc. Then they may be "faced" in any direction convenient to the director. This is the simplest "order method."

Another simple method is to have them form and count off as in above, then "right face," so as to be in column of file. Then if, for example, the count off has been by sixes, the command is given: "Sixes column left—march"; or, if it is preferred, "Sixes right—march," at which the sixes wheel into columns of six.

A more elaborate method, which is much in use, is to count off by sixes, for example, "right face," march in file until the first six comes across the further end of the gymnasium. Then the command, "First six by the left flank—march." Each six in turn perform the same maneuver, each line of sixes stopping six feet back of the one in front. When the command is given to "open order," the members side step to right or left six feet apart. In case the floor is marked with spots the sixes may open order before doing the "by the left flank—march," at the further end of the gymnasium.

TO GET THE CLASS OFF THE FLOOR.

The scramble method may be used in this case also, where time is an important consideration.

Of the formal methods, lines may close to front and march in files in succession, or the lines may face right or left, close and march in files as before.

If the class is small the "Sixes right" (or left) may be executed into line.

WHEN TO GIVE THE DRILL IN CLASS WORK.

The custom heretofore has been to start the class work with the drill, followed by apparatus work and games.

This is not desirable, since the drill is so much more vigor-

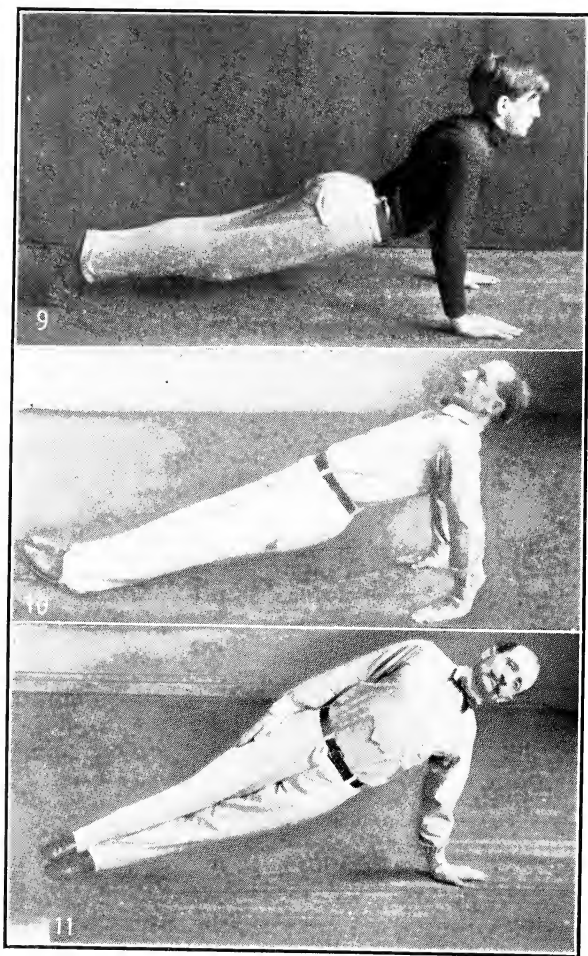


FIG. 9. FRONT LEANING-REST. FIG. 10. BACK LEANING-REST.
FIG. 11. SIDE LEANING-REST.

ous than the apparatus work that pupils often take cold during the latter.

A better plan is to have the class quickly "fall in" in column (see frontispiece, Fig. B) and give about five minutes of light rapid work of any movements that may be done to the side so as not to interfere with pupils in front or rear. Follow this "warming up" with apparatus work, then the dumb bell drill, then a class run, and close with recreative games.

HOW OFTEN TO CHANGE DRILL.

According to this method of grading it is best to continue each drill from two to four weeks before changing to next one.

EXAMINATIONS.

It is desirable in a graded system of gymnastics, either in schools, colleges, Y.M.C.A.'s and clubs that pretend to do more than haphazard work, to hold examinations at stated times, usually at the end of the season's work. The method of conducting such an examination in calisthenics is to have the director deploy the class in positions for exercising. Then station a judge for each four members in such a position that he can watch all their movements. The director gives the command for each movement, but does not demonstrate how it is to be done, or if they are being examined on a "set drill" he merely gives them the command for starting.

The examination may then consist of any of the graded drills given during the season's work or an entirely new combination of movements, but using no commands not used in the season's work. The best method, however, is to examine on the last drill given to the class.

The judges should be members of the class who are acquainted with the drill. They can be given their examination at some other time. They should have a large sheet of paper with the names of the men well apart. This they hold up in line with the four men and without taking their eyes from the men, should, whenever one makes a mistake, either in time or form, make a dot with a pencil below his name, each dot to represent a cer-

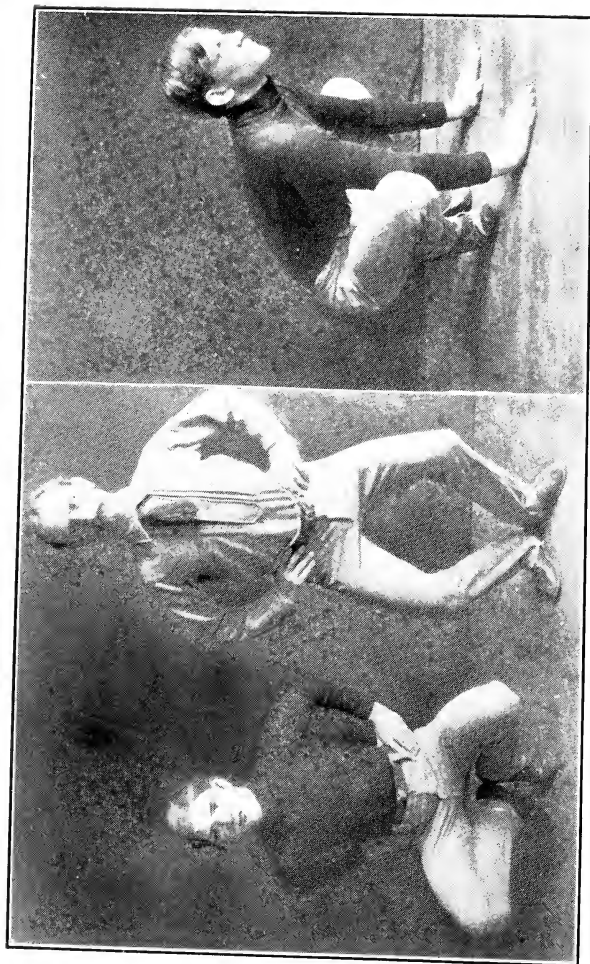


FIG. 12. (a) FULL SQUAT.

(b) HALF SQUAT.

FIG. 13. SQUAT REST.

tain number of points against the man who made it, determined upon beforehand in accordance with the gravity of the offense.

For example: A drill is given with ten different exercises and each exercise has ten movements or counts. If the contestant misses one movement one dot might be put down, which might represent 1 per cent. on the basis of say 100 per cent. for a perfect drill. Bad form would represent 1 per cent. for each movement, so that if one entire exercise were done in bad form 10 per cent. would be deducted from the standing.

There are other good methods of marking, but this is a suggestion. "A word to the wise is sufficient."

NOTE.—The photographs reproduced in this work were made by George H. Walden, Rochester, N. Y.

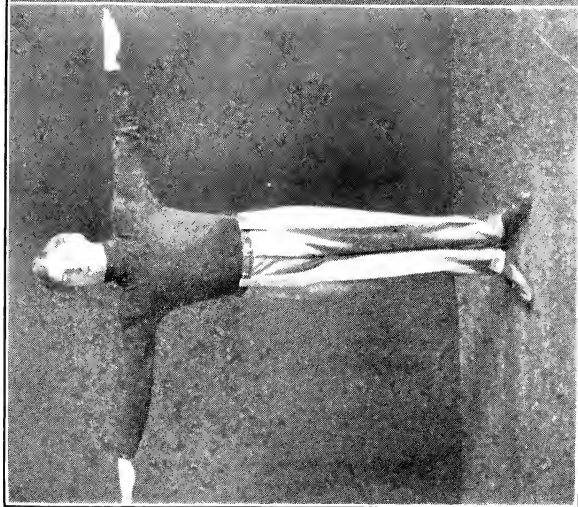


FIG. 14. ARMS AT SIDE HORIZONTAL.

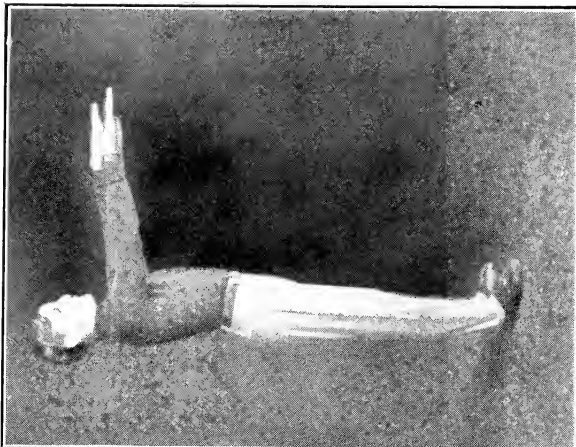


FIG. 15. ARMS AT FRONT HORIZONTAL.

Calisthenic Nomenclature

I. GENERAL TERMS.

- A. (a) *Calisthenics* comprise all exercises with movable hand apparatus and all exercises without apparatus, except—
(b) *Class Evolutions*, which comprise all kinds of marching and running in class.
- B. *The Body* is divided for convenience as follows:
- (a) trunk;
 - (b) head;
 - (c) upper limbs—
arm (shoulder to elbow),
forearm (elbow to wrist),
hand (wrist to fingers);
 - (d) lower limbs—
thigh (hip to knee),
leg (knee to ankle),
foot.
- C. *Axes and Planes*. Three axes and three planes are considered:
- (a) The *Vertical Axis* corresponds to the spinal column in whatever position.
 - (b) The *Horizontal Axis* corresponds with or is parallel to a line drawn through the shoulders at right angles to the vertical axis.
 - (c) The *Antero-Posterior Axis* corresponds with or is parallel to a line drawn from front to back at right angles to the vertical and horizontal axes.
 - (d) The *Lateral Plane* contains the vertical and horizontal axes.
 - (e) The *Antero-Posterior Plane* contains the vertical and antero-posterior axes.
 - (f) The *Horizontal Plane* contains the antero-posterior and the horizontal axes.

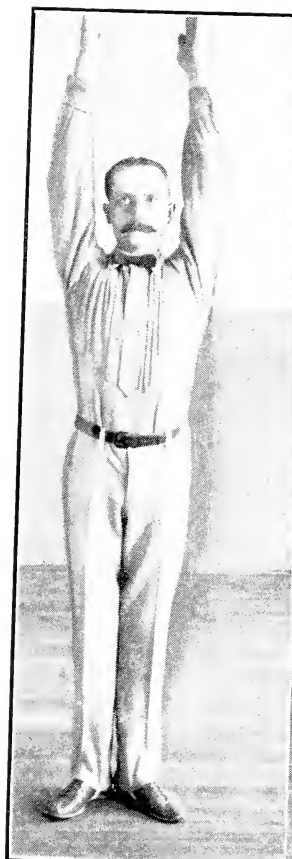


FIG. 16. ARMS VERTICAL.

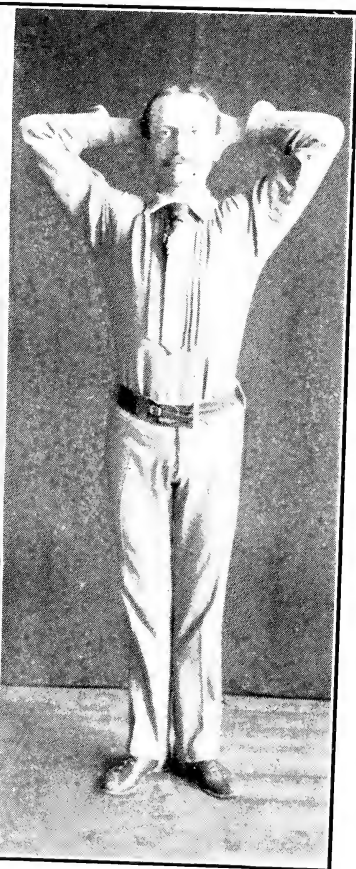


FIG. 17. HEAD CLASP.

- D. (a) *Abduction* is a movement away from the median line of the antero-posterior plane; or, in case of the fingers, away from the median line of the hand. Example: Thigh abduction. (See Fig. 27.)
- (b) *Adduction* is a movement toward or across the median line of the antero-posterior plane. (Fig. 28.)
- (c) *Circumduction* is a movement of any member in which the tip of the member describes a circle, the member itself, up to the centre of motion describing a cone. The term circle is used interchangeably with *circumduction* in movements of the limbs. (Fig. 36.)
- (d) *Flexion* is a bending of one of the extremities in the direction in which the moving parts can be most closely approximated. In gymnastic use, flexion means that the limb is bent to the fullest extent. The term flexion is used when the trunk is the centre of motion and the limb moves toward it. Example: Raising the thigh is a flexion. (See Fig. 25.)
- (e) *Half flexion*, the limb is moved 90 degrees.
- (f) The term *Bend* is used when the limb is the centre of motion and the trunk moves. (Example: A forward movement of the body from the hips.) [Fig. 39.]
- (g) *Extension* is the reverse of *flexion* and *bend*. (Fig. 26.)
- (h) *Rotation* is the turning of the body or any part of it upon its own axis. (Synonym: *Torsion*, *twisting*.) [Figs. 20 and 22a.]
- E. *Direction*. All exercises, unless otherwise directed, should be done to the *left* first, and when the limbs perform separate movements, the first named shall be done to the left.
- F. *Positions and Commands*. Names are given to positions; commands are given to show how to arrive at the position. In many cases, after the preliminary instruction, the name of the position may serve as the command for taking such position. (Example: "Stride—stand—Left foot sidewise—Place!" becomes later, "Stride—Stand!")

II. POSITIONS.

1. *Of the Body and Lower Limbs.*—

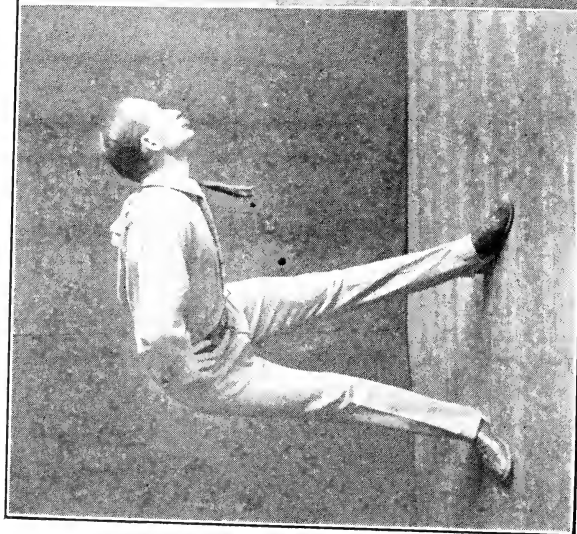


FIG. 18. ROTATE AND BEND.



FIG. 19. HIP BEND, WITH HANDS ON HIPS.

- (a) *Attention*. The position of the soldier, as given in United States Infantry Drill Regulations, except that the feet are at angle of 90 degrees. At the command "attention" given at any time, this position is to be assumed. (See Fig. 1.) The position of a wand or bar-bell at "attention" is with arms down, bar across thighs, hands grasping it with palms toward body and dividing into thirds.
- (b) *Stand*. Position as in "attention," except that arms may be in any position. At command to assume "stand," heels are brought together, but arms are kept in position held at the time.
- (c) *Walk—Stand*. Either foot is two lengths of itself in front of the other, from heel to heel, both legs extended, and supporting body equally, foot making angle of 90 degrees. (See Fig. 2.)
- (d) *Stride—Stand*. Heels are two lengths of foot apart laterally, legs extended and supporting body equally, feet at an angle of 90 degrees. (See Fig. 3.)
- (e) *Stoop—Stand*. Legs are in "attention," trunk bent forward at hips about 30 degrees, back straight, chest out, chin in. Combining this trunk position with (c) and (d) gives "Stoop—Walk—Stand" and "Stoop—Stride—Stand." (See Fig. 4.)
- (f) *Arch—Stand*. (Also Arch—Walk or Arch—Stride—Stand.) Head and upper back bent back to fullest extent. (See Fig. 5).
- (g) *Toe—Touch*. One foot is advanced in direction indicated, foot extended, toes touching floor, other foot in place and supporting entire weight of body. (See Fig. 6.)
- (h) *Charge*. One foot is advanced in direction indicated three foot lengths, knee bent and directly over the instep. The outer foot is in place, knee straight. Most of weight is on advanced foot. The angle of feet remains at 90 degrees, body erect on hips and facing front. (See Fig. 7.)
- (i) *Lunge*. This is as in the charge, except that the moving foot is advanced as far as possible. The direction of a Toe-Touch, Charge, or Lunge may be as follows: Forward, forward oblique, side, rear oblique, rear, or cross.

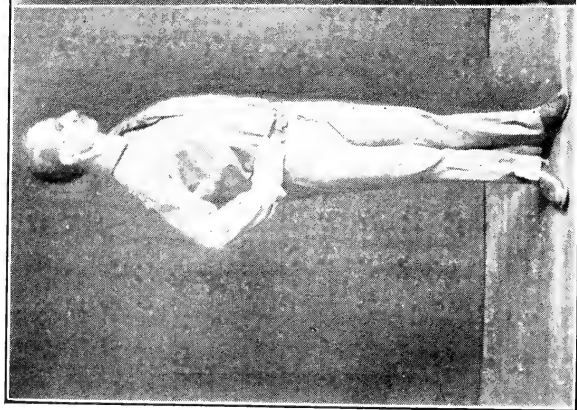


FIG. 20.

ROTATE BODY WITH HANDS ON HIPS.

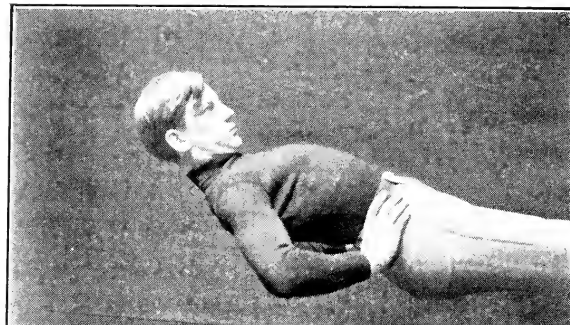
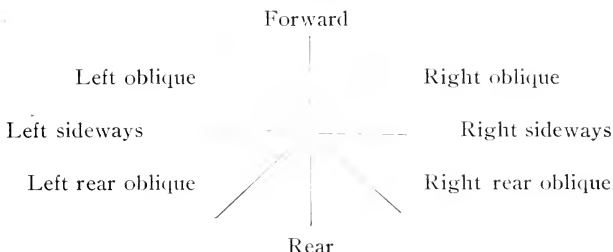


FIG. 21.

(a) HEAD BENT BACK. (b) HEAD BENT FORWARD.



(j) *Cross-Charge, Toe-Touch, or Lunge* is a movement of either leg in manner indicated, to the oblique or rear oblique of opposite sides. (See Fig. 8.)

(k) *Leaning—Rest*. Body supported by hands and feet, limbs all straight, thighs extended.

(1) *Front—Leaning—Rest* is when body faces downward. (See Fig. 9.)

(2) *Back—Leaning—Rest* is when body faces upward. (See Fig. 10.)

(3) *Side—Leaning—Rest* is when the side of body is toward the floor. The body may be supported on one or both arms—one unless otherwise indicated. (See Fig. 11.)

(l) *Squat*. The body is lowered by bending knees and hips, back hollow; knees pointing same direction as feet. *Quarter and Half Squat*—Heels are kept on floor unless otherwise directed. *Full Squat*—Heels are raised. (See Fig. 12.)

(m) *Squat—Rest*. Squat with hands resting on floor, body inclined forward, arms between knees. (See Fig. 13.)

2. Of Upper Limbs.—

(a) *Horizontal*, level with the shoulders (front, front oblique, side, rear oblique). Forearm, hand, and fingers extended, with palms down, unless otherwise directed. (See Figs. 14 and 15.)

(b) *Vertical*, arms up, forearms, hands and fingers extended, with palms inward, unless otherwise directed. This posi-

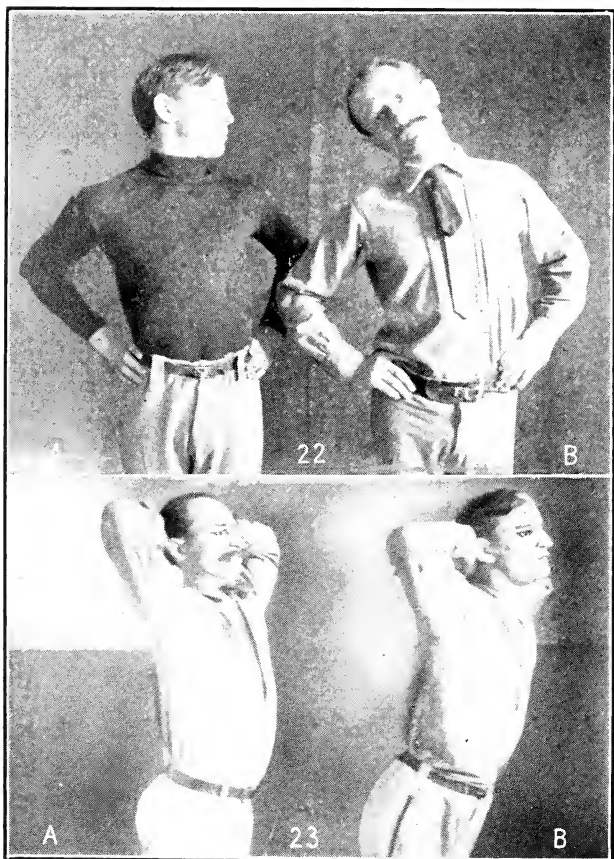


FIG. 22. (a) HEAD ROTATION.

(b) SIDE BEND OF HEAD.

FIG. 23. (a) HEAD RETRACTION.

(b) HEAD PROJECTION.

tion may be reached and departed from through any of the directions indicated for charge. (See Fig. 16.)

- (c) *Head Clasp*, hands clasped high on back of head; elbows back as far as possible. (See Fig. 17.)

III. MOVEMENTS.

1. *Of Body*.—

- (a) *Turns*, used in reference to rotations about the vertical axis.
- (1) *Right Turns*, in the direction in which the hands of a clock move, the clock regarded as on the floor, face up. (If the body is brought into a position in which the head is downward, the clock shall be regarded as still upon the floor.) Turns may be designated by fractions, as quarter, half, three-quarter, full or complete. Quarter right turn is equivalent to "right face" of military drill, half right turn to "about face."
- (2) *Left Turns*, the reverse of the above,
- (b) *Circles*. Rotation about horizontal or antero-posterior axis.
- (1) Circles about the horizontal axis in the antero-posterior plane. These are named with reference to a clock placed at the left side facing the body. Circles in the direction of the motion of the clock hands are "front" or "forward" circles. When executed on the floor as a movement of progression, or correspondingly on apparatus (as the parallel bars), these are called "forward rolls." Backward circles or rolls are in the opposite direction. "Somersaults" are forward or backward circles, but are made in the air without support.
- (2) Circles about the antero-posterior axis and in the lateral plane are named from the motion of the clock hands placed in front of and facing the body. Right circles, *with* the hands; left, *against* the hands.
- (c) *Bending*, with the hips or waist as the centre of motion. Direction named as for charge, but always with reference to position of trunk. (See Figs. 5, 19 and 31.) Example: If trunk is rotated to right, a forward bend will be in direc-

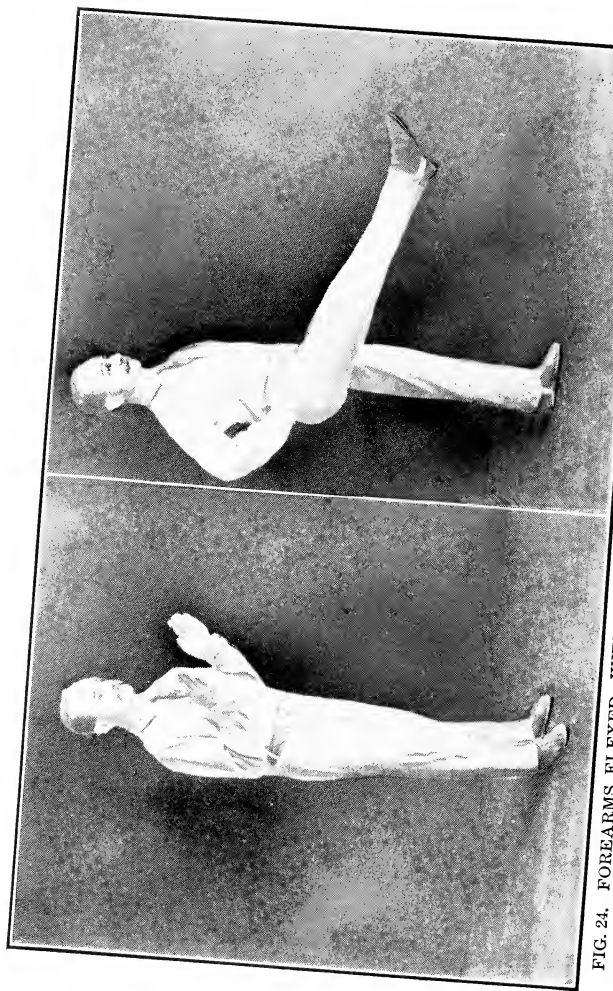


FIG. 24. FOREARMS FLEXED, WITH FINGERS
EXTENDED.

FIG. 25. THIGH FLEXION.

tion trunk is facing. (See Fig. 18.) *Forward* is the only bend from the hips and is made with the spine straight. (See Fig. 19.)

- (d) *Rotation*, about the spinal column as an axis, feet remain stationary, hips firm. Direction, as for "turns." (See Fig. 20.)
- (e) *Circumduction*, about the lumbar vertebræ as a centre. Direction, as for "turns." (See Fig. 32.)

2. *Of the Head.*—

- (a) *Bending*. (See Figs. 21 and 22b.)
- (b) *Rotation*. (See Fig. 22a.)
- (c) *Circumduction*.
- (d) *Projection and Retraction*. Chin is kept at same level throughout. (See Fig. 23.)

3. *Of Upper Limbs.*—

- (a) *Arm Circles*.
 - (1) *Forward and Backward*, or front and back about horizontal axis in antero-posterior plane, clock as in similar body circles.
 - (2) *Right and Left*, about antero-posterior axis in lateral plane, clock as in similar body circles.
 - (3) *Great Circles*, arms move up in antero-posterior plane (sides to vertical), down to sides in lateral plane. Also vice versa.
- (b) *Rotation*, about the bones as axes. The whole limb, or the forearm along, may be rotated.
- (c) *Flexion*, complete bending at elbow, wrist or finger joints. Forearm, hands or fingers may be flexed.
 - (1) Arms down, forearms may be flexed forward or side-ward. (See Fig. 24.)
 - (2) Arms at side horizontal, forearms may be flexed forward, downward and upward.
 - (3) Arms at front horizontal, forearms may be flexed inward (right to left and vice versa) and upward.
 - (4) Arms at vertical, forearms may be flexed backward and inward.

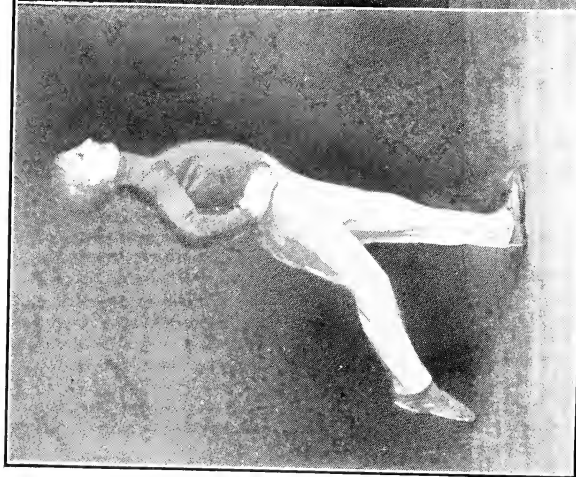


FIG. 26. THIGH EXTENSION.



FIG. 27. THIGH ABDUCTION.

- (d) *Arm Swings*, movements of whole limb from shoulder, through fraction of a circle.
 - (1) *Forward—Up*, from sides to front horizontal or vertical, and front horizontal to vertical. (See Fig. 33.)
 - (2) *Sideways—Up* from sides to side horizontal or vertical, and side horizontal to vertical. (See Fig. 34.)
 - (3) *Forward—Down*, reverse of Forward—Up.
 - (4) *Sideways—Down*, reverse of Sideways—Up.
 - (5) *Back*, from sides backward in antero-posterior plane, about one-eighth circle, and in horizontal plane from front to side horizontal. (See Fig. 35.)
 - (6) *Front*, from side horizontal to front horizontal.
- (e) *Shoulder Rotation*, rotary movement of scapulae, arms down at sides, front horizontal, side horizontal or vertical.
- (f) *Arm Circumduction* (Shoulder Circles, from the shoulder as a centre, about either axis, describing circles of any diameter indicated.

4. *Of Lower Limbs.*

- (a) *Charge*, movement to position described in II., 1, (h): The foot is raised but slightly from the floor, the bending at the thigh and knee being continuous from the start, so that thigh and leg are almost in final position when foot strikes floor, without shock. Trunk is kept erect throughout. (See Fig. 7.)
- (b) *Lunge*, movement to position as described in II., 1, (i).
- (c) *1-4, 1-2 or Full Squat*, movements to position as described in II., 1, (l). The tendency to bend trunk forward should be prevented. (See Fig. 12.)
- (d) *Thigh Flexion*, raise thigh forward, leg and foot extended. (See Fig. 25.)
- (e) *Thigh Extension Backward*, thigh extended backward as far as possible, leg and foot extended. (See Fig. 26.)
- (f) *Thigh Abduction*, moving the thigh from the median line to its own side. To be done without altering position of pelvis. (See Fig. 27.)
- (g) *Thigh Adduction*, moving the thigh from an abducted

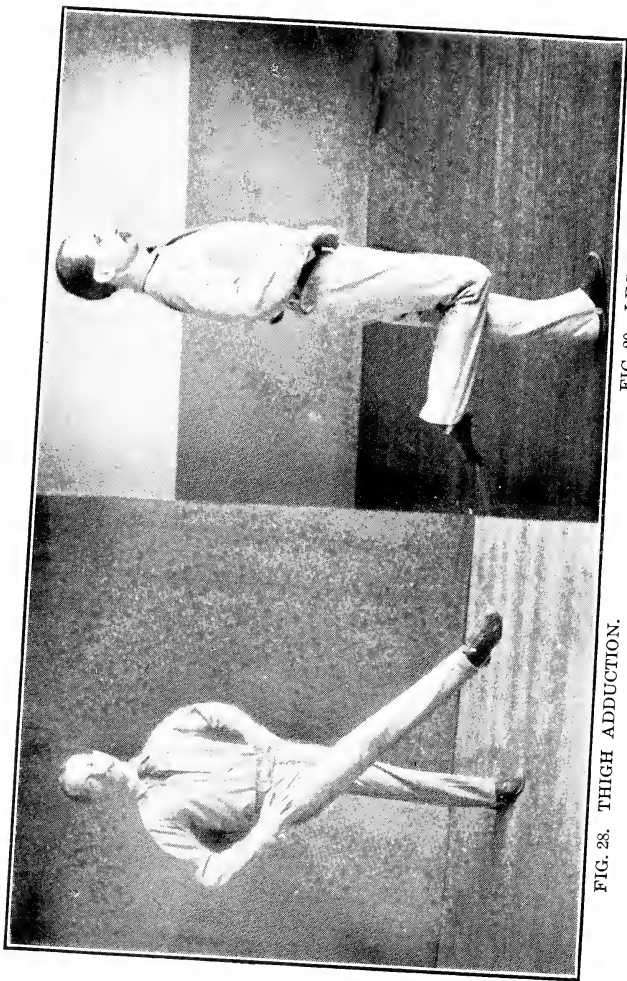


FIG. 28. THIGH ADDUCTION.

FIG. 29. LEG FLEXION.

position toward the median line, also across the median line from its own side. (See Fig. 28.)

- (h) *Thigh Rotation*, about the femur as an axis.
- (i) *Thigh Circumduction*, (Leg Circles), a circumduction of thigh from the hip as a centre. May be started from flexed, abducted, or extended positions. Direction right or left, clock facing the foot, whatever the starting point. (See Fig. 36.)
- (j) *Leg Flexion*, leg flexed upon the thigh, which remains fixed. (See Fig. 29.)
- (k) *Leg Rotation*, about its own axis. Possible only when the leg is flexed.
- (l) *Foot Extension*, straightening foot into line with leg, or when feet are on the floor raising heels. (See Fig. 30.)
- (m) *Foot Flexion*, reverse of foot extension.
- (n) *Jumps*, Springing from both feet. (Also used of movements of progression on apparatus, body supported by hands.)
 - (1) *Broad*, gaining ground in any direction indicated.
 - (2) *Upward*, springing straight up without gaining ground. May be accompanied with various movements of limbs, turns, etc.
 - (3) *Stride Jump*, spring to stride, stand and return to starting position, both thighs moving equally.
 - (4) *Walk Jump*, spring to Walk-Stand and return to starting position, also continuous alternation of feet in Walk-Stand.
 - (5) *To Stride Stand*. Movement to position is performed at command, "*Left (right) foot sideways—Place!*" the foot being moved twice its length to its own side. Or it may be done at command, "*To Stride Stand—Jump!*" the thighs being abducted simultaneously. Ultimate form of command being "*Stride—Stand!*"
 - (6) *To Walk Stand*. Same principle is applied here as in (5) "*To Stride Stand*," except foot may be moved either forward or backward. Ex.—"*To Walk Stand, Left (right) foot forward (backward)—Place!*"
- (o) *Hop*, a spring starting from one foot and landing on same.
 - (1) *Broad* and *Upward* as for Jumps.

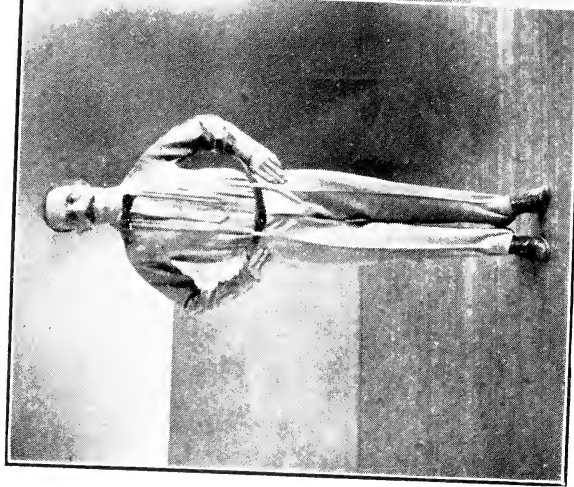


FIG. 30. FOOT EXTENSION.



FIG. 31. SIDE BEND IN THE STRIDE-STAND,
HANDS ON HIPS.

(p) *Runs*, Rapid alternation of movement of both limbs. One foot leaves floor before other is replaced.

(1) *Stationary Run*, running movement without gaining ground. May be of flexions of leg alone, of thigh and leg, of thigh, etc.

(2) *Double Time-March*, run gaining ground. Fancy steps of many kinds may be introduced.

(NOTE—The above nomenclature was adopted by the Physical Directors' Conference of 1892, 1893 and 1894.)

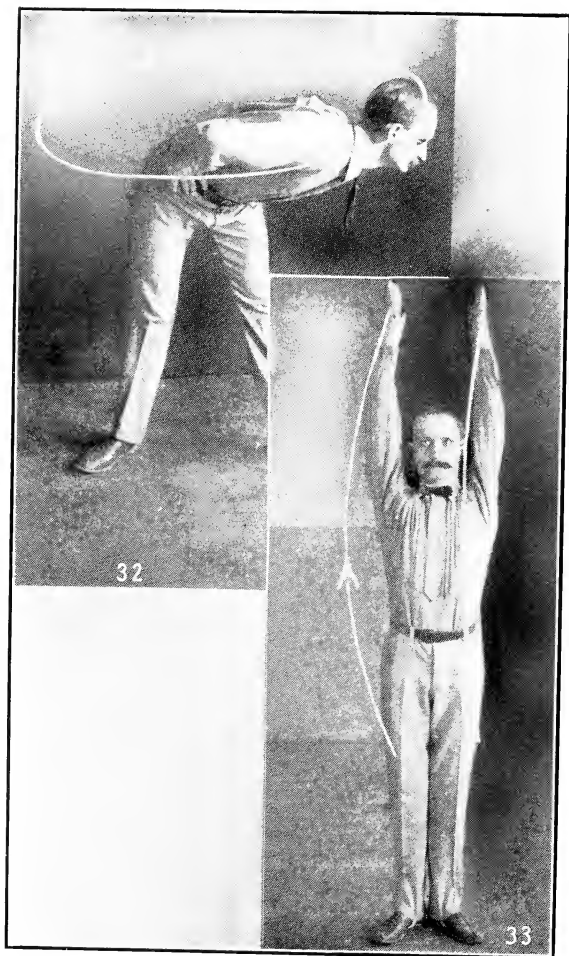


FIG. 32. CIRCUMDUCT BODY TO LEFT.

FIG. 33. ARM SWINGS FORWARD UP.

Development of the Graded Drill

Calisthenics are divided into (1) *positions* and (2) *movements*.

In this work the following are used:

Positions: stand, squat, squat-rest, sitting, leaning-rest, lie down.

Movements: of the head, body, upper extremities, lower extremities.

Positions are further subdivided as follows:

I. POSITIONS.

1. *Standing.*

Attention (Fig. 1).

Stride—Stand (Fig. 3).

Stoop—Stand (Fig. 4).

Stride—Stoop—Stand.

Arch—Walk—Stand (Fig. 5).

Walk—Stand (Fig. 2).

2. *Squatting.*

Half (Fig. 12, b).

Full (Fig. 12, a).

Squat—rest (Fig. 13).

3. *Leaning—rest (hand, elbow).*

Front (Fig. 9).

Back (Fig. 10).

Side (Fig. 11).

4. *Lying.*

On Back (Figs. 41 and 42).

On Side (Fig. 44).

On Abdomen (Fig. 45).

5. *Balance.—*

(1) On one leg, with various positions of body and other leg.
(Figs. 46 and 47.)

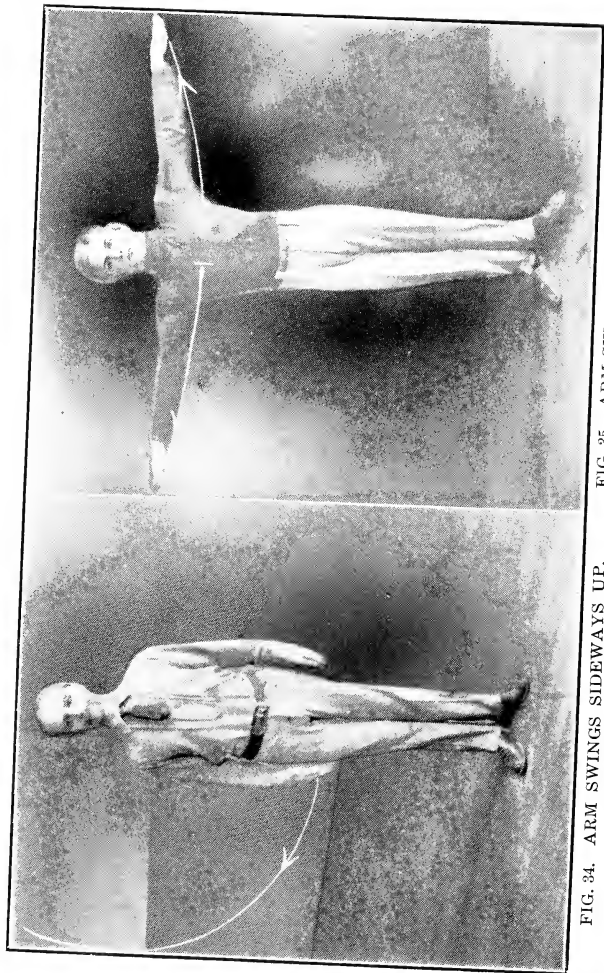


FIG. 34. ARM SWINGS SIDEWAYS UP.

FIG. 35. ARM SWINGS FROM FRONT TO SIDE
HORIZONTAL.

- (2) Squat. (Fig. 12, a.)
- (3) Head balance.
- (4) Forearm balance. (Fig. 48.)
- (5) Hand balance. (Fig. 49.)

II. MOVEMENTS are subdivided as follows:

1. *Head.*—

- (a) Bend (Figs. 21 and 22b.)
 - forward,
 - side,
 - back.
- (b) Projection and retraction. (Fig. 23.)
- (c) Rotation.
- (d) Circumduction.

2. *Body.*—

- (a) Hip bend. (Fig. 19.)
- (b) Side bend. (Fig. 31.)
- (c) Arch bend. (Fig. 5.)
- (d) Rotation. (Fig. 20.)

3. *Upper Extremities.*—

- (a) Thrusts (Fig. 38.)
 - forward (Fig. 15),
 - side horizontal (Fig. 14),
 - upward (Fig. 16).
- (b) Swings,
 - forward (Fig. 33),
 - sideways (Fig. 34),
 - horizontal (Fig. 35).
- (c) Circles,
 - forward,
 - sideways,
 - backward.

4. *Lower Extremities.*

- (a) Feet:
 - (1) Extend (a) slowly (Fig. 30);
 - (b) quickly (hop) with or without leg movements.

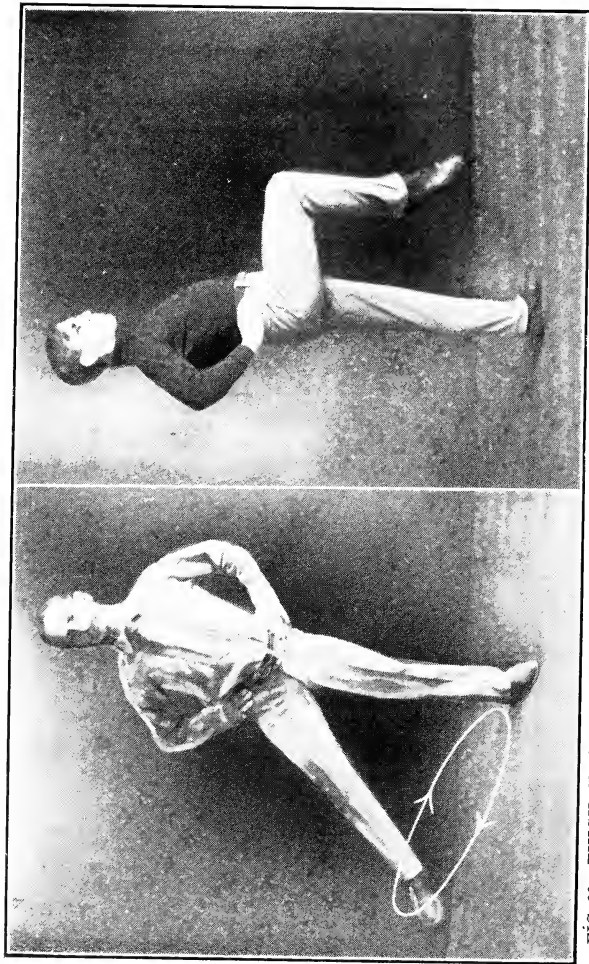


FIG. 36. THIGH CIRCUMDUCTION TO RIGHT.

FIG. 37. FLEX THIGH AND LEG STANDING.

- (2) Flex.
- (b) Charges:
 - forward (Fig. 7),
 - forward oblique,
 - side,
 - rear oblique,
 - rear,
 - cross (Fig. 8).
- (c) In stand:
 - (1) Flex thigh. (Fig. 25).
 - (2) Abduct thigh. (Fig. 27).
 - (3) Extend thigh. (Fig. 26).
 - (4) Flex thigh and leg. (Fig. 37).
 - (5) Flex thigh and leg and extend leg. (Combine Figs. 37 and 25.)
 - (6) Flex and extend thigh. (Combine Figs. 25 and 26.)
 - (7) Flex leg. (Fig. 24).
- (d) Squats:
 - (1) Half. (Fig. 12b).
 - (2) Full, with or without movement of other leg. (Fig. 12a).
 - (3) Squat-rest, with or without movement of leg. (Fig. 13).
 - (4) One leg.
- (e) Jumps (with or without movements of legs or arms).
 - Upward,
 - Forward and backward,
 - Sideways,
 - Stride-jump,
 - Walk-jump.

In constructing a drill from the foregoing, one may give the movements in the above order, the grading being accomplished by combining with the positions given above, as well as with combination of other movements, where practicable. Or subdivisions of the movements may be separated and arranged in any order and then combined with positions and further movement as desired.

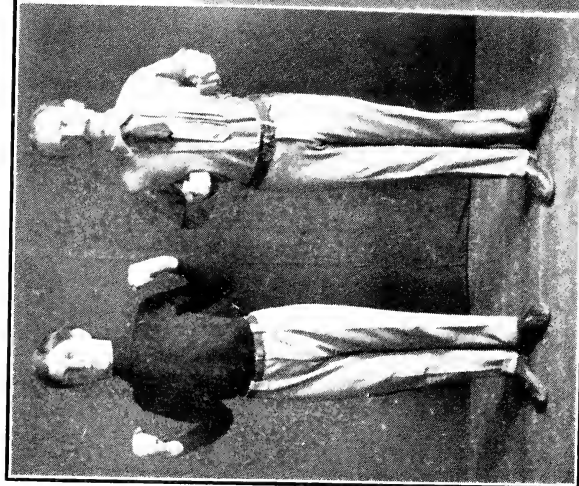


FIG. 38. POSITIONS FOR THE THRUST. (a) FOR
SIDE AND VERTICAL THRUST. (b) FOR
FORWARD THRUST.

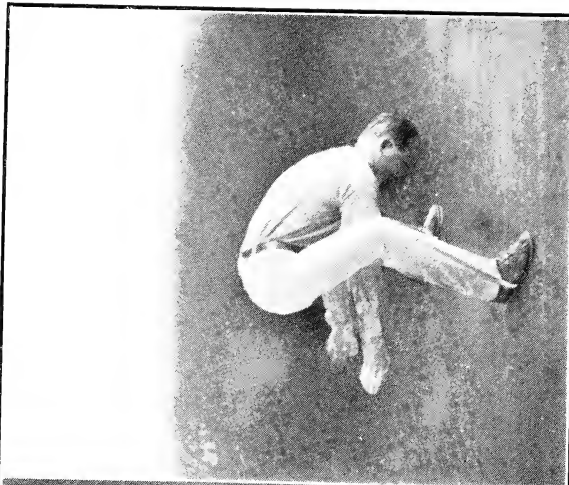


FIG. 39. FORWARD BEND, SWINGING ARMS
BETWEEN LEGS.

For the sake of convenience the drill has been arranged in the following skeleton. It may or may not be taught in this order:

I. CORRECTIVE FREE WORK.

- (1) Thrusts.
- (2) Neck movements.
- (3) Arm circles and swings.
- (4) Hip bend.
- (5) Side bend.
- (6) Arch bend.

II. MOVEMENTS OF LOWER EXTREMITIES.

- (1) Charges.
- (2) Leg movements in the stand.
- (3) Hops.
- (4) Squats.
- (5) Jumps.

III. LIE DOWN EXERCISES.

IV. LEANING—REST EXERCISES.

V. BENDS.

VI. BALANCES.

This skeleton is enlarged further by the following method:

Second step. (A suggestion of only two exercises to illustrate the process of filling in the elements of the drill):

I. CORRECTIVE FREE WORK.

1. Thrusts (front, side, up).
 - (1) In various stands.
 - (2) With various movements.
2. Neck movements, with resistance.
 - (1) In various stands.
 - (2) With various movements.

{	forward, sideways, back, rotate, extend, retract.
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This is further enlarged until finally the entire drill is developed in elements small enough for the unlimited selection of graded series of drills.

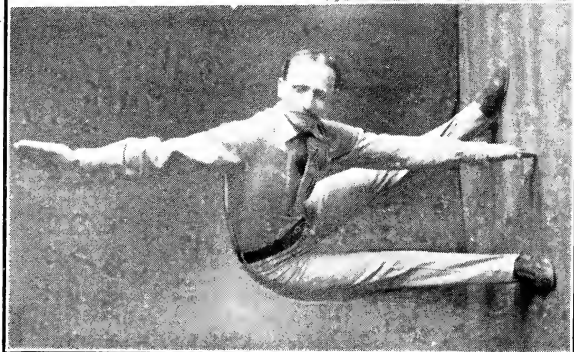


FIG. 40. FORWARD BEND AND ROTATION, FROM STRIDE-STAND, WITH ARMS AT SIDE HORIZONTAL.

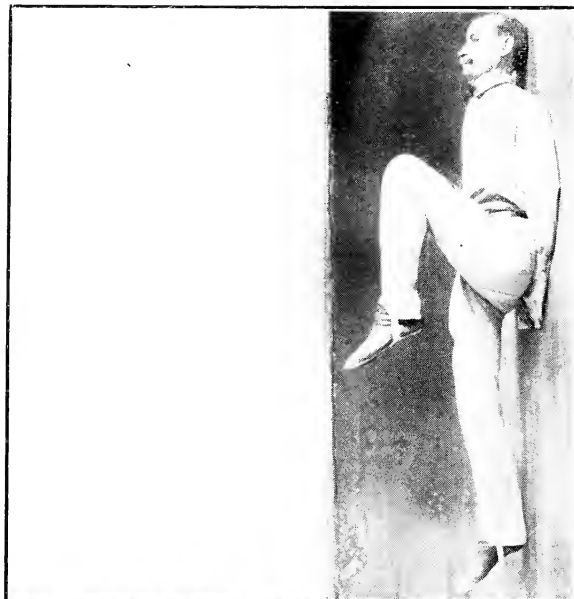


FIG. 41. FLEX THIGH AND LEG WHILE LYING ON BACK.

The following is the condensed drill in full:

I. CORRECTIVE FREE WORK.

1. Thrust, without or with extension and flexion of fingers.

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> (a) To front horizontal (Fig. 15) from Fig. 38b. (b) To side horizontal (Fig. 14) from Fig. 38a. (c) To vertical (Fig. 16). (d) Alternate. | { | <ul style="list-style-type: none"> 1. In the stoop-stand (Fig. 4). 2. In the stride-stoop-stand. 3. Arch—walk—stand (Fig. 5). 4. With leg movements. 5. With body movements. 6. With leg and body movements. |
|---|---|--|

2. Head movements with resistance of hands.

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> (a) Forward bend (Fig. 21, b). (b) Side bend (Fig. 22, b). (c) Backward bend (Fig. 21, a). (d) Project and retract (Fig. 23). (e) Rotate. (f) Circumduct. | { | <ul style="list-style-type: none"> 1. In the stoop-stand. 2. In the stride-stoop-stand. 3. With body movements. 4. With leg movements. 5. With body and leg movements. |
|--|---|---|

3. Arm swings and circles,

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> (a) Forward to vertical (Fig. 33). (b) Sideways to vertical (Fig. 34). (c) In horizontal plane (Fig. 35). (d) Circumduct backward at side horizontal. | { | <ul style="list-style-type: none"> 1. In stoop-stand. 2. In stride-stoop-stand. 3. With leg movements. 4. With body movements. 5. With leg and body movements. |
|--|---|---|

4. Hip bend (forward).

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> (a) In the stand (Fig. 19). (b) In the stride-stand. (c) In the walk-stand. | { | <ul style="list-style-type: none"> 1. Arms held in various positions. 2. Arm movements. 3. Leg movements. 4. Arm and leg movements. |
|---|---|---|

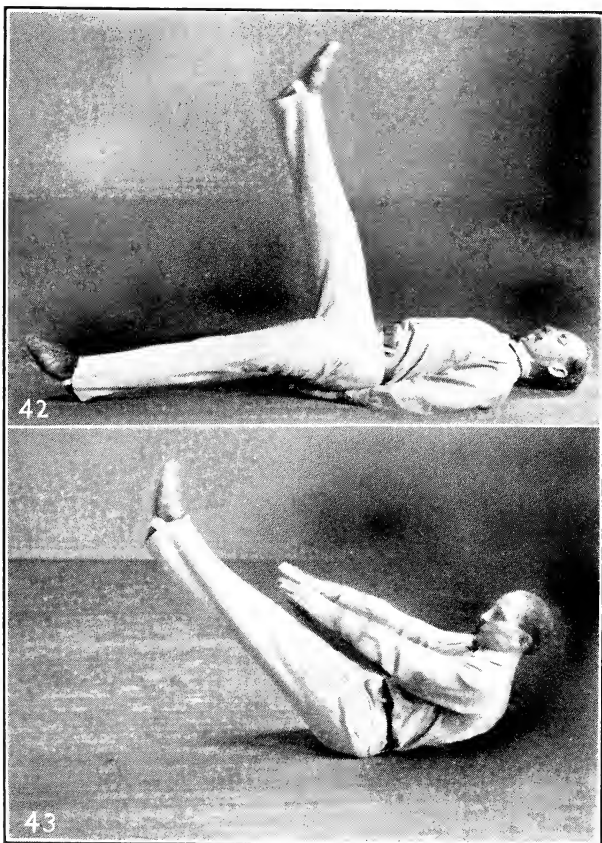


FIG. 42. FLEX THIGH WHILE LYING ON BACK.

FIG. 43. FLEX THIGHS, RAISING BODY AND TOUCH LEGS,
WHILE LYING ON BACK.

5. Side bend,

- | | | |
|--|---|---|
| (a) In the stand.
(b) In the stride-stand
(Fig. 31). | { | 1. Arms held in various positions.
2. Arm movements.
3. Leg movements.
4. Arm and leg movements. |
|--|---|---|

6. Arch bend (backward),

- | | | |
|--|---|---|
| (a) In the walk-stand
(Fig. 2).
(b) From stand with leg movements. | { | 1. Arms held in various positions.
2. Arm movements. |
|--|---|---|

II. EXERCISES OF THE LOWER EXTREMITIES.

1. Charge (or lunge), Fig. 7.

- | | | |
|---|---|---|
| (a) Forward.
(b) Forward oblique.
(c) Side.
(d) Rear oblique.
(e) Rear.
(f) Cross. | { | 1. Arms held in various positions.
2. Arm movements.
3. Body movements.
4. Arm and body movements. |
|---|---|---|

2. Leg movements in the stand.

- | | | |
|---|---|--|
| (a) Flex thigh. (Fig. 25.)
(b) Abduct thigh. (Fig. 27.)
(c) Extend thigh. (Fig. 26.)
(d) Flex thigh and leg.
(Fig. 37).
(e) Flex thigh and leg and
extend leg (combine Fig.
37 and 25).
(f) Flex and extend thigh
(combine Fig. 25 and 26).
(g) Flex feet (raise on heels).
(h) Extend feet. (Fig. 30.)
(i) Flex and extend feet. | { | (a) Arms held in various positions.
(b) With arm movements.
(c) With body movements.
(d) With arm and body movements. |
|---|---|--|

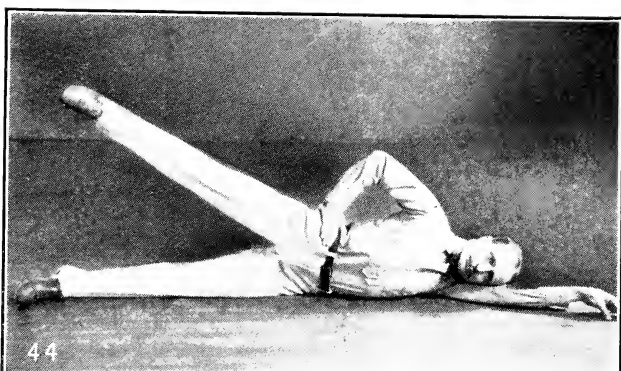


FIG. 44. ABDUCT THIGH WHILE LYING ON SIDE.

FIG. 45. RAISE ARMS AND LEGS WHILE LYING ON THE ABDOMEN.

3. Hop.

<ol style="list-style-type: none"> (a) On one foot. (b) On alternate foot. (c) On one foot with movement of the other leg. 	{	<ol style="list-style-type: none"> 1. With arms in various positions. 2. With arm movements. 3. With leg movements.
---	---	--

4. Squat.

<ol style="list-style-type: none"> (a) Half way down. (Fig. 12b.) (b) All the way down. <ol style="list-style-type: none"> (1) From the stand. (Fig. 12a.) (2) From the stride-stand. (3) From the stand with movement of one leg. (c) With one leg, with movement of other. (d) Squat-rest position (Fig. 13), with movement of leg or legs. 	{	<ol style="list-style-type: none"> 1. With hands held in various positions. 2. Arm movements. 3. With body movements. 4. With body and arm movements.
---	---	---

5. Jump.

<ol style="list-style-type: none"> (a) Upward, without or with leg movements. (b) Forward and backward. (c) Sideways. (d) Stride-jump, without and with body movement. (e) Walk-jump. 	{	<ol style="list-style-type: none"> 1. With arms held in various positions. 2. With arm movements.
--	---	---

6. Running exercise (without moving from the spot).

<ol style="list-style-type: none"> (a) Flexing leg. (Fig. 29.) (b) Flexing thigh and leg. (Fig. 37.) (c) Flexing thigh. (Fig. 25.) (d) Abducting thigh. (Fig. 27.) 	{	<ol style="list-style-type: none"> 1. With arms held in various positions. 2. With arm movements.
--	---	---

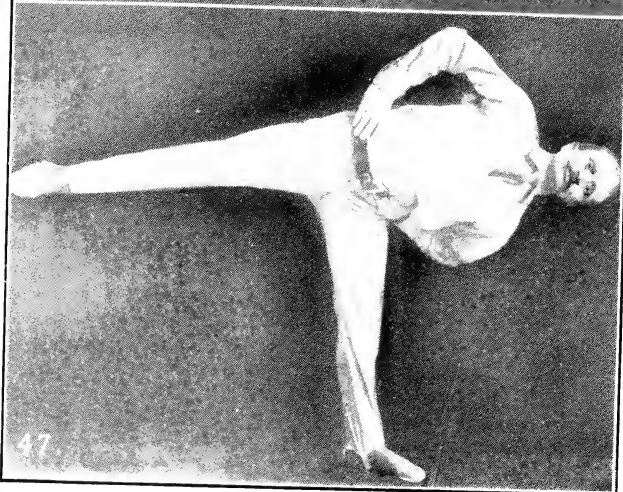
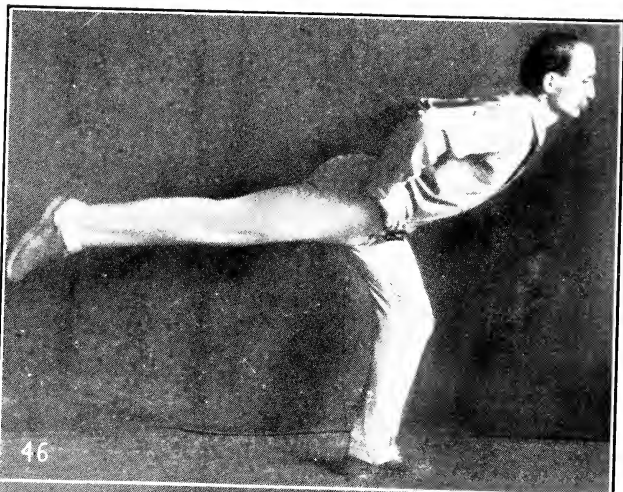


FIG. 46. BALANCE ON LEFT LEG, HOLDING RIGHT THIGH EXTENDED AND BODY BENT FORWARD.

FIG. 47. BALANCE ON LEFT LEG, HOLDING RIGHT THIGH ABDUCTED AND BODY BENT TO SIDE.

III. LYING AND SITTING EXERCISES. (Figs. 41-45.)

- (a) Lie on the back.
- (b) Lie on the abdomen.
- (c) Lie on the side.
- (d) Sitting position.

- 1. Perform movements of
 - (a) Arms.
 - (b) Legs.
 - (c) Body.
 - (d) Arms and body.
 - (e) Arms and legs.
 - (f) Arms, legs, and body.
- 2. Hold arms, body and legs in various positions a few seconds.

IV. LEANING—REST.

- (a) Front leaning-rest (Fig. 9), with movements of (1) arms, (2) legs, (3) body.
- (b) Side leaning-rest (Fig. 11), with movements of (1) free arm, (2) free leg, (3) free arm and leg.
- (c) Back leaning-rest (Fig. 10), with movements of (1) legs, (2) body.

V. BODY MOVEMENTS.

- (1) Forward bend, swing arms between legs. (Fig. 39).

- (a) Stride—Stand.
- (b) Charges.
- (c) Stride—jump.

With arms in various positions and return to same.

- 1. Thighs. (Fig. 3.)
- 2. Side horizontal. (Fig. 14.)
- 3. Vertical. (Fig. 16.)
- 4. Back head. (Fig. 17.)
- 5. Both on one shoulder.
- 6. Both horizontal to one side.
- 7. Side shoulders. Fig. 38a.)
- 8. Alternate any of the above.

- (2) Rotate body.

- (a) In stride-stand.
- (b) With charges.
- (c) With stride-jump.

- 1. With arms held in various positions. (Fig. 20.)
- 2. With arm movements.
- 3. With body movements. (Fig. 18.)
- 4. With arm and body movements. (Fig. 40.)

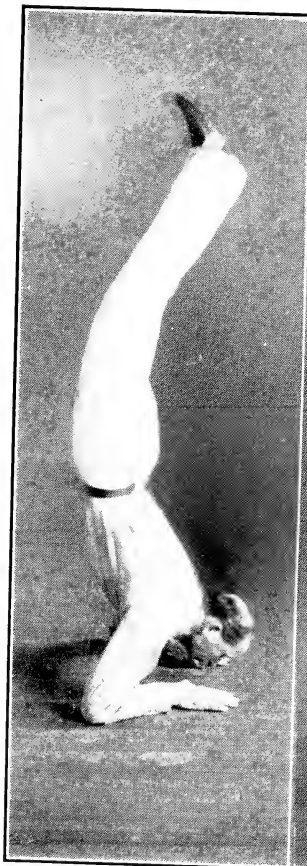


FIG. 48.
FOREARM BALANCE.



FIG. 49.
HAND BALANCE.

3. Circumduct, with arms in various positions. (Fig. 32.)

VI. BALANCE.

- (1) Forward bend with one thigh extended horizontally. (Fig. 46.)
- (2) Side bend with one thigh abducted horizontally. (Fig. 47.)
- (3) Backward bend with one thigh flexed.
- (4) Full squat position. (Fig. 12, a.)
- (5) Head balance assisted by hands.
- (6) Forearm balance. (Fig. 48.)
- (7) Hand balance. (Fig. 49.)
- | | |
|---|-------------------------------------|
| { | (a) Arms held in various positions. |
| { | (b) Arm movements. |
| { | (c) Leg movements. |
| { | (d) Arm and leg movements. |

The writer might have continued the process of enlarging one step further by indicating the various leg movements, body movements, body and leg movements, etc., wherever they appear in the above drill; but this would make the drill rather cumbersome. It is left to the reader's discretion to supply the desirable ones for each combination, and it is here that the director's judgment is brought into play.

Explanation of Drill

I. CORRECTIVE FREE WORK.

1. The thrusts to front horizontal are executed from position with hands at side of chest, as far back as they can be held, with fingers clenched and palms either up or facing each other. (Fig. 38, b.)

The starting position of the arms in the side and vertical thrusts is with the elbows back and down, the clenched hands side of shoulders facing each other. (Fig. 38, a).

All thrusting movements must be executed strongly and vigorously, but not jerky. The emphasis must be made in returning to position with hands next to chest or shoulders. This should be insisted upon, for otherwise there is little benefit to be derived from this movement.

It is not expected that the most difficult combinations will be used in the "corrective free work." These are best reserved for the "body movements" with combinations.

The movements here are to be light, easy, and of a character to correct defective carriage of the body. An example will show this:

It is possible to thrust to vertical while squatting with right leg, at same time abducting left thigh and rotating body with forward bend; yet it is not desirable to perform this exercise in connection with "Corrective free work." Be content with simpler combinations even though repetition is necessary.

It will be noted that extension and flexion of fingers (grip) may be performed to good advantage with the thrusts.

2. In performing the neck movements the hands are placed on the forehead in the forward bend; on the side of the head on the side bend; and are clasped back of the head with elbows well back, on the backward bend, as well as in project and retract. They may or may not be placed on the sides of the head in the

rotate and circumduct. In any case the resistance should be strong enough to bring the muscles strongly into action.

3. The arm swings should be done strongly in both directions, but more especially in all upward and backward movements. In the "forward up swing" the fingers are extended, palms facing. In the "side up" the palms face each other both on the start and finish. (Figs. 33-35.)

The circles are made with arms freely extended and are performed both in the same or opposite directions. Both may be done together or alternately.

4. The hip bend refers to a forward bend at the hips only. The spine is kept straight, chest out, shoulders back and down. It is desirable in this exercise to keep the eyes fixed on some object on the wall in front in order to prevent drooping of head and shoulders. (Fig. 19.)

5. In the side bend one should avoid moving the head from side to side. The legs and hips are stationary except in combinations with body and leg movements. The extended position of the spine should also be maintained. (Fig. 31.)

6. The arch bend refers to a backward bend. In performing this movement the neck should first be bent well back in the backward bend and in returning to erect position the neck is first bent forward. (Fig. 5.)

II. MOVEMENTS OF THE LOWER EXTREMITIES.

1. The charge and lunge are so much alike that they are treated together. In a progressive series of drills for a season's work, it is desirable to give the charges in the beginning and the lunges in the latter part of the season. The directions and positions of feet in the charges are described in the nomenclature (p. 25).

A common error in the charges is to keep the body and head from moving with the charging leg. For accepted position of charge see Fig. 7.

2. Leg movements in the Stand.

Under this head are collected such exercises of the lower extremities as do not naturally come under any one of the other

groups. Since they are less vigorous, they naturally are placed not far from the beginning. The movements should be made to their fullest extent. (Figs. 25, 26, 27, 30, 37.)

(*Note.*—It was not possible to show the fullest extent of these exercises in photographs, since the positions could not be maintained.)

3. The hopping exercises are done "on the spot" or with fancy steps of limited space. The movement is executed lightly on the ball of the feet with the knees slightly bent.

4. In performing the half squat the feet are kept flat. (See Fig. 12b.)

In the full squat the heels are raised, and the spine is erect, except in body movements. (See Fig. 12a.)

The squat-rest position is the full squat with palms of hands on floor. (See Fig. 13.)

5. The jumping exercises are made upon the ball of the feet. They are among the most violent exercises of the drill and should therefore be done slowly and only a few times. Especially is this true of the upward jumps. The remainder may be done moderately fast.

6. Running exercises may be performed when one uses this drill in a limited space, but are superfluous in a gymnasium where one may run on a track properly.

III. SITTING OR LYING DOWN EXERCISES.

Are preferably done on mats, but in large classes are done upon the floor. These are among the most important exercises of the drill since they bring into play muscles that are not much used by the average man. Their activity affects strongly the vital functions. (Figs. 41—45.)

IV. LEANING REST (Figs. 9—11.)

Exercises in the leaning-rest are of limited number and benefit. The method of obtaining the front leaning-rest position from the stand, is by either first obtaining the squat-rest and then extend legs, or by falling forward to front leaning-rest with arms bent. The side and back leaning positions are obtained from the front position. All leaning positions may be obtained from the lying

positions and may be incorporated in connection with them, if they are used at all.

V. BODY BENDING AND ROTATING.

This series includes body bending, rotating, and circumducting exercises of a very important and varied nature.

1. In the forward bending exercises the knees are bent as the arms swing well down between them. (Fig. 39.) In the charging combinations of this exercise, only the charging leg is bent.

2. Rotation, rotation and bend, and bend and rotation exercises are self explanatory. A distinction should be noted between bend and rotation from rotation and bend. (Figs. 18, 22, 40).

3. The circumduct should be done alternately left and right so as to avoid dizziness. (Fig. 32.)

VI. BALANCE.

Balancing exercises furnish desirable and important addition to mass class work. Each position should be held several seconds.

1. In the forward bend with thigh extended the hips should be held horizontal, neck extended. The knee of the leg upon which the balance is made is flexed enough to permit a horizontal position of body and other leg. (See Fig. 46.)

2. In the side bend with thigh abducted, the body and leg should be horizontal and the balancing leg should not be bent. (See Fig. 47.)

3. The backward bend with thigh flexed can be done only to a limited degree. The neck should be held well back.

4. The remaining balance positions are self explanatory. (Fig. 12a, 48, 49.)

Sample Graded Drills

The six drills that follow are samples of a graded series of drills all derived from the previous outline, and may be used as they are or modified by each director. It is advised that each director make up his own series. It will be seen that each drill is more vigorous than its predecessor, but it should be understood that drill No. 6 is not the Climax, but each director may continue making drills from these samples in ever increasing vigor and complication.

GRADED DRILL No. 1.

1. Stoop-stand—*Thrust*.
 - (a) Front horizontal (from position in Fig. 38b, to position in Fig. 15.)
 - (b) Side horizontal (from position in Fig. 38a, to position in Fig. 14).
 - (c) Vertical (from position in Fig. 38a, to position in Fig. 16).
2. Stoop-Stand—*Neck movements*, with resistance of hands.
 - (a) Forward bend. (Fig. 21b.)
 - (b) Side bend. (Fig. 22b.)
 - (c) Backward bend. (Fig. 21a.)
 - (d) Project and retract chin. (Fig. 23.)
3. Stoop-Stand—*Arm swings*.
 - (a) From thighs, forward up and return. (Fig. 33.)
 - (b) From thighs, sideways up and return. (Fig. 34.)
 - (c) From front horizontal to side horizontal and return. (Fig. 35.)
 - (d) Circumduct arms, hands at side horizontal.
4. Stand, hands on hips—*Hip bend*. (Fig. 19.)
5. Walk-stand, hands on hips—*Arch bend*. (Fig. 5.)

6. Stand, hands on hips—*Charge*. (Fig. 7.)
 - (a) Forward.
 - (b) Forward oblique.
 - (c) Side.
 - (d) Rear oblique.
 - (e) Rear.
7. Stand, hands on hips.
 - (a) Flex thigh. (Fig. 25.)
 - (b) Abduct thigh. (Fig. 27.)
 - (c) Extend thigh. (Fig. 26.)
 - (d) Flex thigh and leg. (Fig. 37.)
 - (e) Flex feet, raise on heels.
 - (f) Extend feet. (Fig. 30.)
8. Stand, hands on hips—*Squat*.
 - (a) Half way down. (Fig. 12b.)
 - (b) All the way down. (Fig. 12a.)
9. Stand, hands on hips—*Hop*.
 - (a) On one foot.
 - (b) Alternate foot.
10. Stand, hands on hips—*Jump*.
 - (a) Upward.
 - (b) Forward and backward.
 - (c) Sideways.
 - (d) Stride jump. (Jump to stride-stand and return to stand.)
 - (e) Walk-jump. (Change legs simultaneously in walk-jump.)
11. Lie on back, hands under hips.
 - (a) Flex one thigh and leg. (Fig. 41.)
 - (b) Flex both thighs and legs.
 - (c) Flex one thigh. (Fig. 42.)
 - (d) Raise body to sitting position and return.
12. Lie on side, resting on elbow—*Abduct thigh*. (Fig. 44.)
13. Lie on abdomen.
 - (a) Arms side horizontal. Raise arms as high as possible.
 - (b) Arms front horizontal. Raise arms as high as possible.
 - (c) Hands side shoulders—*Thrusts*.
 - (1) To side horizontal.
 - (2) To vertical.

14. Front—leaning—rest. (Fig. 9.) *Flex and extend arms.*
15. Side—leaning—rest. (Fig. 11.) *Abduct thigh.*
16. Back—leaning—rest. (Fig. 10.) *Flex thigh and leg.*
17. Stride—stand.—Swing arms between legs (Fig. 39) from and to,
 - (a) Thighs. (Fig. 3.)
 - (b) Side horizontal. (Fig. 14.)
 - (c) Side shoulders. (Fig. 38a.)
 - (d) Vertical. (Fig. 16.)
18. Stride—Stand—*Rotate body* with hands on,
 - (a) Hips (Fig. 20, except that legs are in stride—stand, Fig. 3).
 - (b) Back of head.
 - (c) Side horizontal. (Fig. 14.)
 - (d) Front horizontal. (Fig. 15.)
19. Stride—stand, hands on hips—*Bend and rotate body.* (Fig. 40.)
 - (a) Forward.
 - (b) Side.
 - (c) Backward.
20. Stride—stand, hands on hips—*Circumduct body.* (Fig. 32.)
21. *Balance*, hands on hips.
 - (a) Forward bend with one thigh extended. (Fig. 46.)
 - (b) Side bend with one thigh abducted. (Fig. 47.)
 - (c) Full squat position. (Fig. 12a.) Arms held in various positions.

GRADED DRILL No. 2.

1. Stride—stoop—stand—*Thrust*, extending fingers on thrust and grip on return.
 - (a) Front horizontal. (Fig. 15.)
 - (b) Side horizontal. (Fig. 14.)
 - (c) Vertical. (Fig. 16.)
2. Stride—stoop—stand—*Neck movements*, with resistance of hands.
 - (a) Forward, side, and backward bend.
 - (b) Project and retract chin.
 - (c) Rotate.
 - (d) Circumduct.

3. Stride—stoop—stand—*Arm swings*.
 - (a) From thighs forward up and return.
 - (b) From thighs sideways up and return.
 - (c) From front horizontal to side horizontal and return.
 - (d) At side horizontal, small backward circles.
4. Stride—stand, head clasp—*Hip bend*.
5. Stride—stand, head clasp—*Side bend*.
6. Walk—stand, one hand back of head—*Arch bend*.
7. Stand, head clasp—*Charge*.
 - (a) Forward.
 - (b) Forward oblique.
 - (c) Side.
 - (d) Rear oblique.
 - (e) Rear.
8. Stand, head clasp.
 - (a) Flex thigh.
 - (b) Abduct thigh.
 - (c) Extend thigh.
 - (d) Flex thigh and leg, then extend leg.
 - (e) Flex and extend thigh.
 - (f) Flex and extend feet.
9. Stand, hands on hips—*Hop*.
 - (a) On one foot.
 - (b) Alternate foot.
 - (c) On one, flex and extend other thigh.
 - (d) On one, abduct and adduct the other thigh.
10. Stand, hands on hips—*Squat*, half way down with one leg, flexing the other leg.
11. Stand, head clasp—*Jump*.
 - (a) Upward.
 - (b) Forward and backward.
 - (c) Sideways.
 - (d) Stride—jump.
 - (e) Walk—jump.
12. Lie on back.
 - (a) Hand under hips. Flex both thighs and legs.

- (b) Arms vertical. Flex one thigh and touch leg with one hand.
- (c) Hands under hips. Flex both thighs.
- (d) Arms vertical. Swing arms forward and raise body to sitting position.
- 13. Lie on side, arms vertical. Raise body from the floor.
- 14. Lie on abdomen. Rest on the forearms.
 - (a) Extend one thigh.
 - (b) Extend both thighs.
 - (c) Abduct both thighs.
- 15. Front leaning—rest.
 - (a) Flex and extend arms.
 - (b) Turn alternately left and right to side leaning-rest, abducting thigh and raising arm.
- 16. Back leaning-rest—*Abduct thigh* alternate L. and R.
- 17. Stride-stand—Swing arms between legs, from and to,
 - (a) Hands back of head.
 - (b) Hands side of shoulders.
 - (c) Both hands on one shoulder.
 - (d) Both arms held horizontally to one side.
- 18. Stride-stand, hands back of head—*Bend and rotate body*.
 - (a) Forward.
 - (b) Side.
 - (c) Backward.
- 19. Stride-stand, hands back of head—*Circumduct body*.
- 20. Balance, with hands back of head.
 - (a) Forward bend with one thigh extended.
 - (b) Side bend with one thigh abducted.
- 21. Balance, hands on hips—Backward bend with one thigh flexed.

GRADED DRILL No. 3.

- I. *Thrust*.
 - (a) To front horizontal with alternate forward toe-touch.
 - (b) To side horizontal with alternate side toe-touch.
 - (c) To vertical with alternate rear toe-touch.

2. *Neck movements.*
 - (a) Hands on forehead—forward bend of neck and body.
 - (b) Hands on side of head—side bend of neck and body.
 - (c) Hands on back of head—backward bend of neck and body.
3. *Arm swings.*
 - (a) Forward to vertical with forward toe-touch.
 - (b) Sideways to vertical with side toe-touch.
 - (c) In horizontal plane with rear toe-touch.
 - (d) Circumduct arms at side horizontal with 1-2 squat.
4. Stride-stand, arms vertical—*Hip bend.*
5. Stride-stand, arms vertical—*Side bend.*
6. Walk-stand, one arm vertical—*Arch bend.*
7. Attention—*Charge.*
 - (a) Forward oblique, swinging arms to front horizontal and then forcibly to side of chest.
 - (b) Side, swinging arms to side horizontal and then forcibly to side of chest.
8. *Extending thigh*, without movement of arms.
9. Attention—*Hop.*
 - (a) On one foot, changing arms to various positions.
 - (b) Alternate foot, changing arms to various positions.
10. Attention—*Squat*, half way down, raising arms forward to vertical.
11. Stride-stand—*Squat* all the way down, raising arms sideways to vertical.
12. Squat-rest, one thigh extended—Simultaneous change of leg positions.
13. Attention—*Jump.*
 - (a) Upward, swinging arms to front horizontal.
 - (b) Forward and backward, swinging arms to front horizontal.
 - (c) Sideways, alternately raising arm to side horizontal.
 - (d) Stride-jump, swing arms sideways to vertical.
 - (e) Walk-jump, swing arms alternately to front horizontal.
14. Lie on back.
 - (a) Hands down—Raise to sitting position.
 - (b) Hands under hips—abduct thighs.

- (c) Various arm swings.
- (d) Hold thighs slightly flexed for several seconds.
- 15. Lie on side, resting on forearm.
 - (a) Alternately flex thigh and leg, then extend thigh.
 - (b) Raise arm over head, abducting thigh and touching leg.
- 16. Lie on abdomen.
 - (a) Arms extended vertical—*Abduct thighs* and spread arms.
 - (b) Hands on hips—*Side bend*.
- 17. Front leaning-rest.
 - (a) Alternately step sideways with hand and return.
 - (b) Abduct thighs.
- 18. Side leaning-rest, free hand at shoulder—*Thrust* vertical and side bend of body.
- 19. Back leaning-rest—*Abduct thighs*.
- 20. Stand. Side charge and swing arms between legs from and to.
 - (a) Thighs.
 - (b) Side horizontal.
 - (c) Both on one shoulder.
 - (d) Both extended horizontally to one side.
- 21. Stride stand, hands at side horizontal—*Bend and rotate body*.
(Fig. 40.)
 - (a) Forward.
 - (b) Sideways.
 - (c) Backward.
- 22. Stride stand, one arm vertical—*Circumduct body*.
- 23. Balance, with one arm vertical.
 - (a) Forward bend with one thigh extended.
 - (b) Side bend with one thigh abducted.
- 24. Full squat balance and
 - (a) Thrusts.
 - (b) Arm swings.

GRADED DRILL No. 4.

- 1. Stand—*Thrusts with half squat*, and grip.
 - (a) To front horizontal.
 - (b) To side horizontal.
 - (c) To vertical.

2. Stand—*Neck movements*.
 - (a) Hands on forehead—Forward neck bend and forward toe-touch.
 - (b) Hands on side of head—Side neck bend and side toe-touch.
 - (c) Hands on back of head—Backward neck bend and backward toe-touch.
3. Attention—*Arm swings*.
 - (a) Forward to vertical with forward oblique cross-toe-touch.
 - (b) Sideways to vertical with side cross-toe-touch.
 - (c) In horizontal plane with rear oblique cross-toe-touch.
4. Attention—*Hip bend*, swinging arms forward to vertical.
5. Stride-stand—*Side bend*, swinging arms sideways to vertical.
6. Walk stand—*Arch bend*, swinging one arm forward to vertical.
7. Attention—*Charge*.
 - (a) Cross forward oblique, swing arms through front to side horizontal.
 - (b) Cross side charge, swing arms sideways to vertical.
 - (c) Cross rear oblique, hands on hips.
8. Attention.
 - (a) Flex one thigh and leg, grasping leg with both hands and press knee to chest.
 - (b) Flex thigh and leg, then extend leg, bringing hands to side of chest and then thrusting to front horizontal.
 - (c) Flex and extend thigh, swinging arms in horizontal plane.
9. Stand—*Hop* and thrust.
 - (a) On one foot.
 - (b) On alternate foot.
10. Stride stand—*Squat*, swinging arms through side horizontal and vertical to side of shoulders.
11. Attention—*Full squat*, swinging the arms through front to side horizontal.
12. Attention—*One leg squat*, flexing the other thigh and raising arms to front horizontal.
13. *Squat-rest*.
 - (a) Swimming movement.
 - (b) One thigh abducted—Change legs simultaneously.

14. Attention—*Jump*.
 - (a) Upward, swinging arms to front horizontal, flexing thighs and legs.
 - (b) Upward, swinging arms to side horizontal, abducting thighs and legs.
 - (c) Hands on hips—Jump upward, flexing one thigh and extending other.
15. Lie on back.
 - (a) Hands under hips, flex thighs and legs, then extend legs.
 - (b) Hands side shoulders, forward thrust and raise to sitting position.
 - (c) Hands under hips, flex and abduct thighs.
 - (d) With knees bent, feet resting on floor, extend and retract abdomen.
16. Lie on abdomen.
 - (a) Hands side chest, side thrust.
 - (b) Arms at side horizontal, raise arms from floor.
 - (c) Hands side chest, thrust vertical.
 - (d) Arms vertical, raise arms and extend thighs.
17. Front leaning-rest.
 - (a) Flex arms, and on return spread arms simultaneously a few inches.
 - (b) Flex one thigh and leg.
18. Back leaning-rest.
 - (a) Flex thigh and leg.
 - (b) One leg flexed, simultaneous change of legs.
19. Stand—*Stride-jump* swinging arms between legs from and to,
 - (a) Thighs.
 - (b) Back head.
 - (c) Side chest.
20. Stand, arms at side horizontal—*Charge*, bend and rotate body.
 - (a) Forward.
 - (b) Sideways.
 - (c) Rear.
21. Stand, arms vertical—*Bend and rotate body*.
 - (a) Forward.

- (b) Sideways.
- (c) Rear.
- 22. Balance.
 - (a) Arms vertical, forward bend with one thigh extended.
 - (b) Arms vertical, side bend, with one thigh abducted.
 - (c) Head clasp, backward bend with one thigh flexed.
- 23. Full squat balance.
 - (a) Hands on hips, with thigh abducted.
 - (b) Arms at front horizontal and one thigh flexed.

GRADED DRILL No. 5.

- 1. Stride-stoop-stand—*Thrust*.
 - (a) Forward, with arms side horizontal and forearms flexed.
 - (b) Alternate—forward, side, vertical, cross.
- 2. Stand—*Neck movements*.
 - (a) Hands on forehead—Forward neck bend and forward charge.
 - (b) Hands on side of head—Side neck bend and side charge.
 - (c) Hands on back of head—Backward neck bend and rear oblique charge.
 - (d) Hands on side of head—Rotate head.
 - (e) Hands on side of head—Circumduct head.
- 3. *Arm swings*.
 - (a) Stride-stand—Arms sideways to vertical, flexing thigh and leg. (Do not lift foot from the floor but simply bend the knee.)
 - (b) Walk-stand—Arms toward to vertical, flexing forward thigh and leg.
 - (c) Walk-stand—Arm swings in horizontal plane, flexing thigh and leg.
 - (d) Stride-stand, arms side horizontal—Small backward circles and flex thigh and leg alternately.
- 4. Stand, hands on hips—*Hip bend* with forward charge.
- 5. Stand, hands on hips—*Side bend* with side charge.
- 6. Stand, hands on hips—*Arch bend* with rear oblique charge.
- 7. Stand, hands on hips—*Lunge* (extreme charge).
 - (a) Forward oblique.
 - (b) Side.
 - (c) Rear oblique.

8. Stand, hands on hips.
 - (a) Flex thigh, bending body backward.
 - (b) Abduct thigh, bending body sideways.
 - (c) Extend thigh, bending body forward.
9. Stand, hands on hips—*Hop*.
 - (a) Flexing and extending opposite leg.
 - (b) Flexing and extending opposite thigh and leg.
 - (c) Flexing and extending opposite thigh.
 - (d) Abducting and adducting opposite thigh.
10. Stand, hands on hips—*Squat*.
 - (a) Half way down and bend.
 - (1) Forward.
 - (2) Side.
 - (3) Backward.
 - (b) All the way down and then abduct thigh.
 - (c) With one leg, abducting other thigh on the descent and side bend of body to opposite side.
11. Attention—*Jump*.
 - (a) Upward and flex one thigh.
 - (b) Forward and backward and thrust forward.
 - (c) Walk-jump, with body rotation, arms at side horizontal.
12. Sit down. Rest hands on floor.
 - (a) Flex thigh and leg.
 - (b) Flex both thighs and legs.
 - (c) Flex thigh.
 - (d) Flex both thighs.
13. Lie on abdomen, arms at side horizontal—Hold arms and legs off the floor several seconds.
14. Front leaning-rest—*Dip* and clap hands alternately.
15. Side leaning-rest—Flex free thigh and swing free arm backward.
16. Back leaning-rest—*Circumduct* one thigh.
17. Stand—*Stride-jump*, swing arms between legs with forward bend from and to,
 - (a) Arms side horizontal.
 - (b) Arms vertical.
 - (c) Both hands on one shoulder, return to other.

18. Stride-stand. Rotate body, flexing thigh and leg. Simply bend the knee alternately.
 - (a) Arms at side horizontal.
 - (b) Arms at front horizontal.
19. Stand, arms at side horizontal. *Charge*, bend and rotate body.
 - (a) Forward.
 - (b) Side.
 - (c) Rear.
20. Balance.
 - (a) Forward bend with one thigh extended. Thrust to front horizontal.
 - (b) Side bend with one thigh abducted. Thrust sideways.
 - (c) Full squat, and
 - (1) Thrust to various positions.
 - (2) Arm swings.

GRADED DRILL No. 6.

1. Stand—*Thrusters*.
 - (a) Forward, with thigh and leg flexion.
 - (b) Sideways, with thigh abduction.
 - (c) Vertical, with leg flexion.
2. Stand—*Neck movements*.
 - (a) Hands on forehead. Rear oblique charge with forward bend of body and neck.
 - (b) Hands on side of head. Side charge and resist on opposite side of head.
 - (c) Hands on back of head. Forward charge and backward bend of body and head.
 - (d) Hands on back of head. Half squat and extend and retract chin.
3. Stride—stoop—stand. *Arm swings*.
 - (a) Swing forward up and rotate body.
 - (b) Swing sideways up and rotate body.
 - (c) Swing in horizontal plane and small forward bend.
 - (d) Circumduct arms at side horizontal and small backward bend.

4. Stand, arms vertical. *Hip bend* with rear oblique charge.
5. Stand, arms vertical. *Side bend* with opposite side charge.
6. Stand, arms vertical. *Arch bend* with forward oblique charge.
7. Stand, hands side of shoulders. *Charge*.
 - (a) Forward, with forward bend and thrust to floor.
 - (b) Side, with side bend and thrust to floor.
 - (c) Rear oblique, with forward bend and thrust to floor.
8. Stand. *Leg movements*.
 - (a) With arms vertical. Flex thigh and forward bend, touch toe.
 - (b) With arms vertical. Abduct thigh and side bend.
 - (c) With arms front horizontal. Extend thigh and spread arms.
9. Stand, hands on hips. *Hop*.
 - (a) Alternate foot, flexing the other thigh and leg.
 - (b) Alternate foot, flexing the other thigh.
 - (c) Alternate foot, flexing the other thigh and leg, then extending leg.
 - (d) Alternate foot, extending and flexing the other thigh.
 - (e) Alternating foot, abducting the other thigh.
10. *Squat*.
 - (a) With arms vertical. Forward bend on descent.
 - (b) Stride-jump, raising arms to side horizontal and on return squat.
 - (c) Attention—*Full squat*, then extend leg forward raising arms to front horizontal.
11. Stand, arms vertical—Squat-rest, then extend thighs and legs to front leaning-rest and dip at same time.
12. Stand—*Jump*.
 - (a) Upward, flexing one thigh and extending the other.
 - (b) Upward, flexing and abducting thighs and touching toes with hands.
 - (c) Stride-stand, hands on hips—Jump forward with one-half turn and return.
13. Sitting, arms front horizontal—Abduct thighs and spread arms.

14. Lie down on back, arms extended horizontally near the head.
 - (a) Flex thighs, swing arms forward (elevating shoulders from floor) and touch feet.
 - (b) Raise arms, head, shoulders and feet off the floor and retain the position for several seconds.
15. Lie on abdomen.
 - (a) Arms vertical. Raise arms and legs from the floor and retain the position several seconds. (Fig. 45.)
 - (b) Position as in (a), then bend sidewise, abducting thigh and touch leg with hand.
16. Lie on side, arms extended near head. Flex and extend free thigh and touching foot with free hand.
17. Front leaning-rest.
 - (a) Stride-jump with arms.
 - (b) Dip and stride-jump with arms alternately.
18. Forward bend.
 - (a) Stride-stand, hands at side horizontal, forward bend and swing arms between legs and on the return squat and circumduct arms.
 - (b) Stand, hands side shoulders. Side charge, forward bend and swing arms between legs and on the return side thrust.
 - (c) Attention. Stride-jump, forward bend and swing arms between legs and on the return swing arms forward to vertical.
19. Rotate body.
 - (a) In stride-stand, rotate with side thrusts.
 - (b) In stride-stand, rotate with side thrusts and forward bend.
 - (c) In stride-stand, rotate with side thrusts and backward bend.
 - (d) Stand, hands on hips, rotate with side charge and forward bend, either left or right.
20. *Balance.*
 - (a) Forward bend with one thigh extended horizontally—Arm movements.
 - (b) Side bend with one thigh abducted horizontally—Arm movements.
 - (c) Backward bend with one thigh flexed, arms at side horizontal.
 - (d) Full squat with arm movements and bends.

Popular Drill

Some directors who do not care to teach a graded series of drills, but wish a set drill that may be used for the average person. For this purpose any one of the first three drills given above may be used. The writer, however, has found the following drill the best for this purpose:

1. Thrusts in stride—stoop—stand.
 - (a) Forward.
 - (b) Side.
 - (c) Vertical.
2. Arm swings in stride—stoop—stand.
 - (a) Forward to vertical.
 - (b) Sideways to vertical.
 - (c) Forward and backward in the horizontal plane.
 - (d) Circumduct arms at side horizontal.
3. Hip bend, with head clasp.
4. Side bend with head clasp in the stride-stand.
5. Arch bend, in walk-stand, with hands on hips. (Fig. 5).
6. Charges.
 - (a) Forward oblique, swinging arms through front to side horizontal.
 - (b) Side, swinging arms sideways to vertical.
 - (c) Rear oblique, swinging arms through front horizontal to side chest.
7. Leg movements in stand.
 - (a) Flex thigh and touch toe.
 - (b) Abduct thigh and touch toe.
 - (c) Extend thigh and swing arms forward to vertical.
8. Hop, with hands on hips.
 - (a) Left foot.
 - (b) Right foot.
 - (c) Alternate left and right.

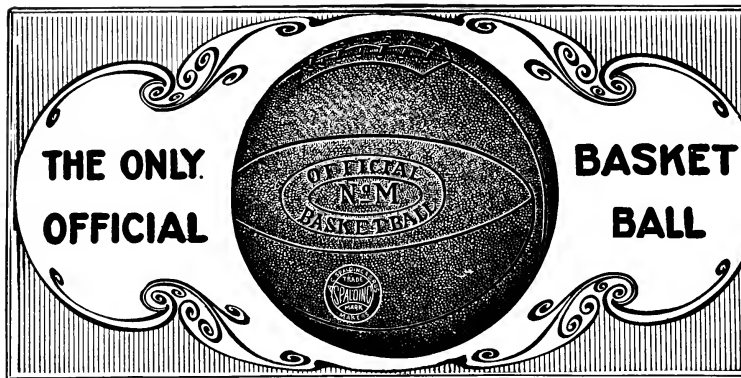
- (d) Alternate left and right, flexing other thigh and leg.
 - (e) Alternate 1 ft and right, flexing other thigh.
 - (f) Alternate left and right, abducting other thigh.
 - (g) On one, flexing and extending other thigh.
 - (h) On one, flexing and extending other thigh alternately.
9. Squat.
- (a) Half squat, raising arms to front horizontal.
 - (b) Full squat, raising arms sideways to vertical.
 - (c) Full squat position, with arms in various positions; also various arm movements.
 - (d) Squat-rest. Extend legs backward to front leaning-rest.
10. Front leaning-rest. *Dip*.
11. Lie on back.
- (a) Hands under hips. Flex thigh and leg. (Fig. 41.)
 - (b) Hands under hips. Flex both thighs and legs.
 - (c) Hands under hips. Flex thigh. (Fig. 42.)
 - (d) Hands under hips. Flex thighs.
 - (e) Abdomen extension and retraction.
 - (f) Abdomen vibration with hand.
 - (g) Hands at side. Raise body to sitting position.
 - (h) Arms extended near head. Raise body, flexing thighs and touch legs with hands.
12. Lie on side. Abduct thigh. (Fig. 44.)
13. Lie on abdomen.
- (a) Thrust vertical or sideways.
 - (b) Rest on forearms. Extend thigh.
 - (c) Arms extended sideways. Raise arms and legs from floor.
 - (d) Arms extended vertical. Raise arms and legs from floor and retain position several seconds. (Fig. 45.)
14. Jump.
- (a) Upward, swinging arms to front horizontal.
 - (b) Upward, swinging arms to side horizontal and abduct thighs.
 - (c) Stride-jump, swinging arms sideways to vertical.
 - (d) Walk-jump, hands on hips.

15. Stand—Forward bend, swinging arms between legs from and to,
 - (a) Side horizontal in the stride-stand.
 - (b) Both on one shoulder in the stride-stand, flexing thigh and leg. (Simply bend knee.)
 - (c) Both extended horizontally to one side in the stride-stand, flexing thigh and leg.
 - (d) Hands side shoulders, side charge.
 - (e) Arms vertical, stride-jump.
16. Rotate body.
 - (a) Arms at side horizontal.
 - (b) Arms at side horizontal, forward bend and rotate. (Fig. 40.)
 - (c) Arms vertical, rotate and forward bend.
17. Stride-stand, hands on hips. Circumduct body.
18. Balance.
 - (a) Forward bend, extending thigh, hands first on hips, then to various positions, then various movements of arms. (Fig. 46.)
 - (b) Side bend, abducting thigh, hands in various positions, then various arm movements. (Fig. 47.)

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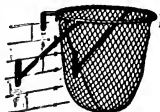
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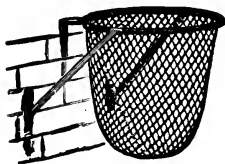
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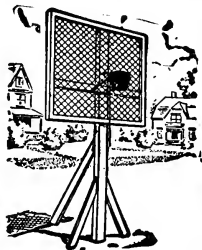
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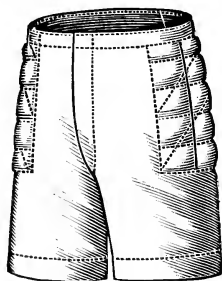
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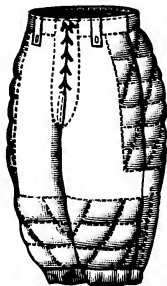
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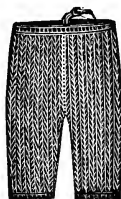
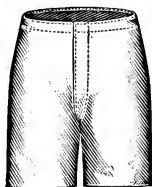
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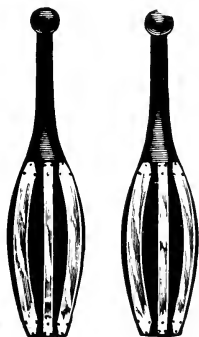
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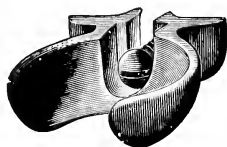
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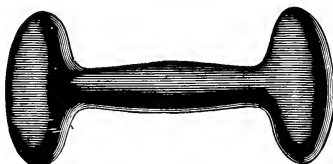
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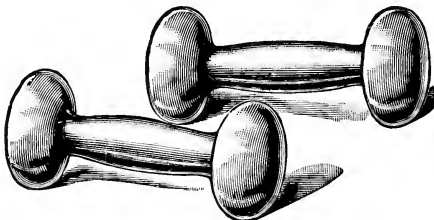
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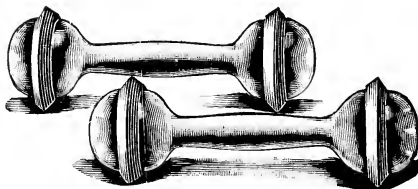
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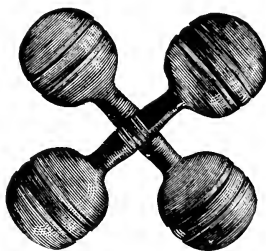


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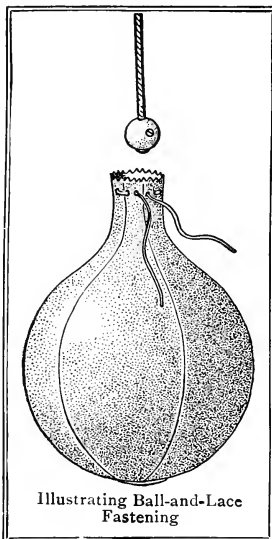
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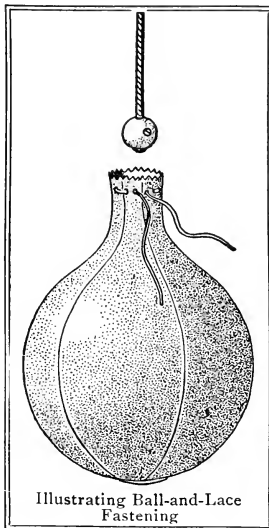
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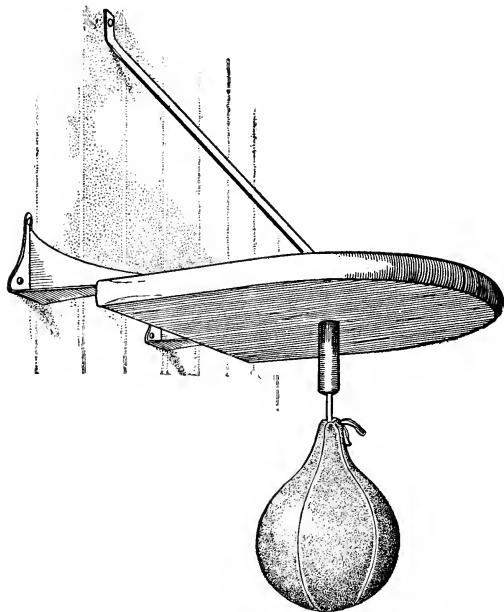
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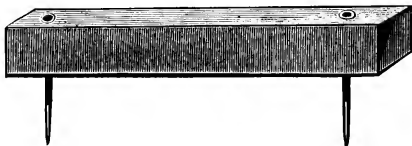
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The discus, shot and weights are thrown from the 7-foot circle. Made of one-piece band iron, with bolted joints. Circle painted white.

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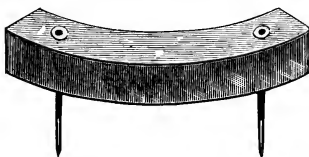
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The take-off board is used for the running broad jump, and is a necessary adjunct to the athletic field. Regulation size, top painted white.

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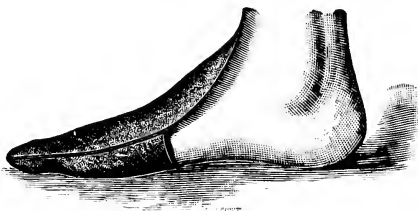
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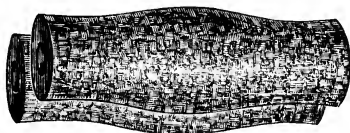
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No. 4.	1 to 150.	.	.	.	" 1.50	7.50
No. 5.	1 to 200.	.	.	.	" 2.00	10.00
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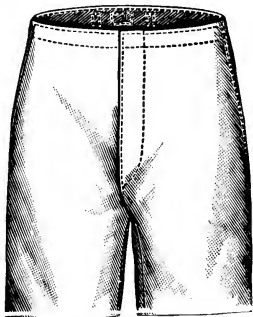
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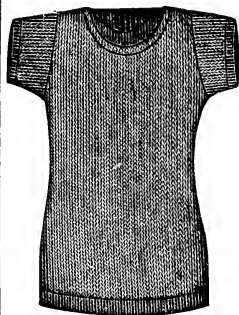
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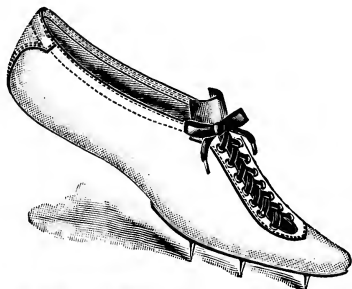
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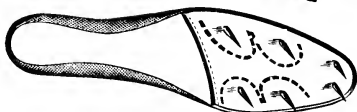
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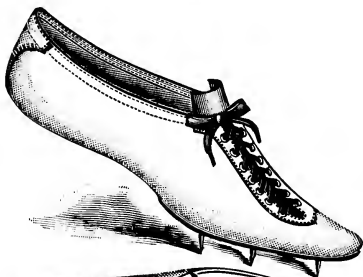


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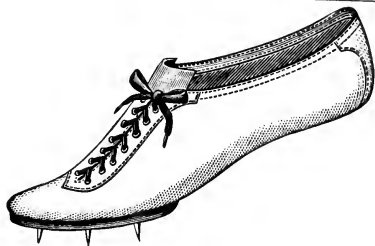
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Running Shoes

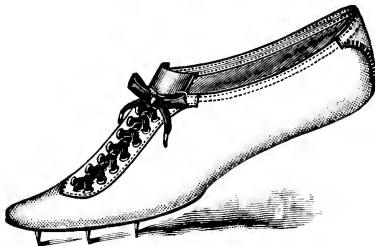
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machine made; solid
leather tap sole holds
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We believe, in this shoe all the various difficulties experienced in manufacturing a satisfactory running shoe in the past have been overcome. First of all, you have here a shoe in which the spikes cannot by any possibility come in contact with the foot; then you have a rubber sole that is an assistance, in that it is partly underneath the spike, and therefore acts in the nature of a cushion. Above all, our patented principle in this shoe enables us to place the spikes so that they will not come loose after being wet, as water has no effect on the rubber sole. We also claim that on account of the non-slippable purchase a runner obtains with this sole, he is able to make a quicker start than is possible with a shoe of ordinary construction, and this fact has been demonstrated conclusively by those who have already tried our shoe and who pronounce it perfect in all respects.

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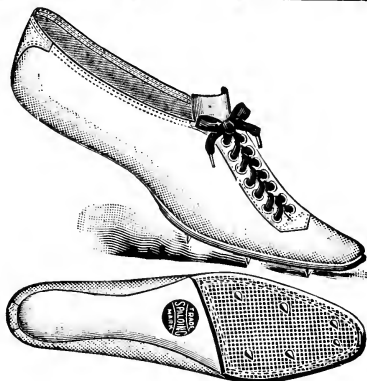
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Made after model submitted by Champion J. S. Mitchel, and endorsed by all weight throwers. Packed in box and guaranteed correct in weight and in exact accordance with rules of A. A. U.

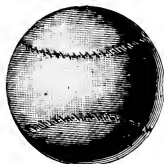
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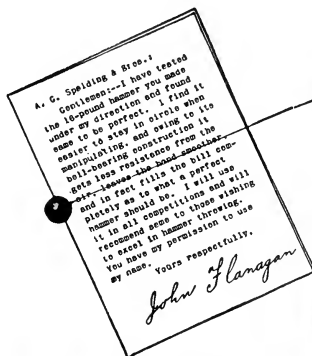
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Ball-Bearing Swivel



Flanagan's Record of 171 ft. 9 in., Long Island City, September 3, 1901, was made with this hammer.



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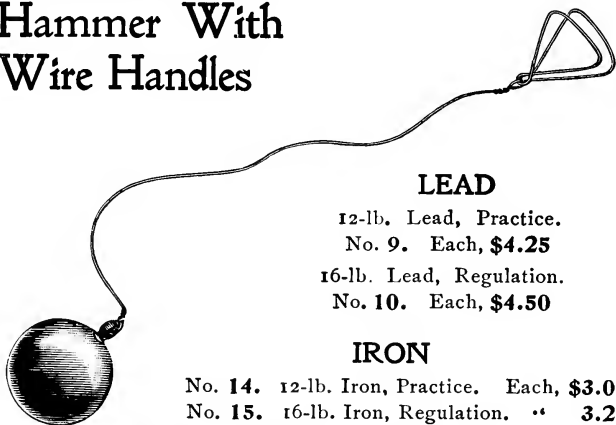
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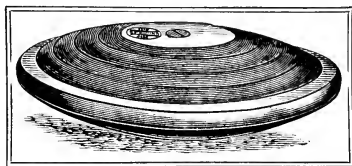
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An exact reproduction of the discus used in the Olympic games at Athens, Greece, by Robert Garrett, of Princeton, the winner.
Guaranteed absolutely correct.

OLYMPIC DISCUS. EACH, \$5.00

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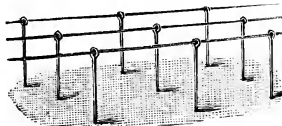
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No. 102.	12 feet long, solid.	" 5.00
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Considerably lighter than the solid poles, and the special preparation with which we fill the interior of pole greatly increases the strength and stiffness.

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A lane can be made of iron stakes driven in the ground about eighteen inches apart and strung with cords. Stakes of $\frac{5}{8}$ -inch round steel, two feet in height, with one end pointed, and pigtail hook on other end to hold cord.

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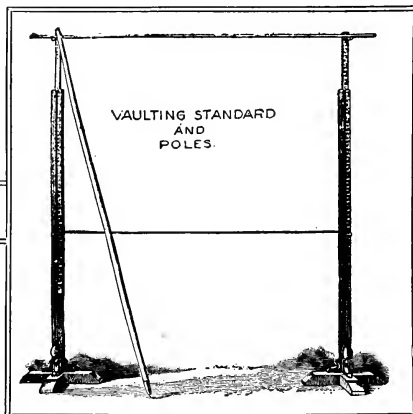
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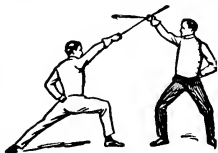
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